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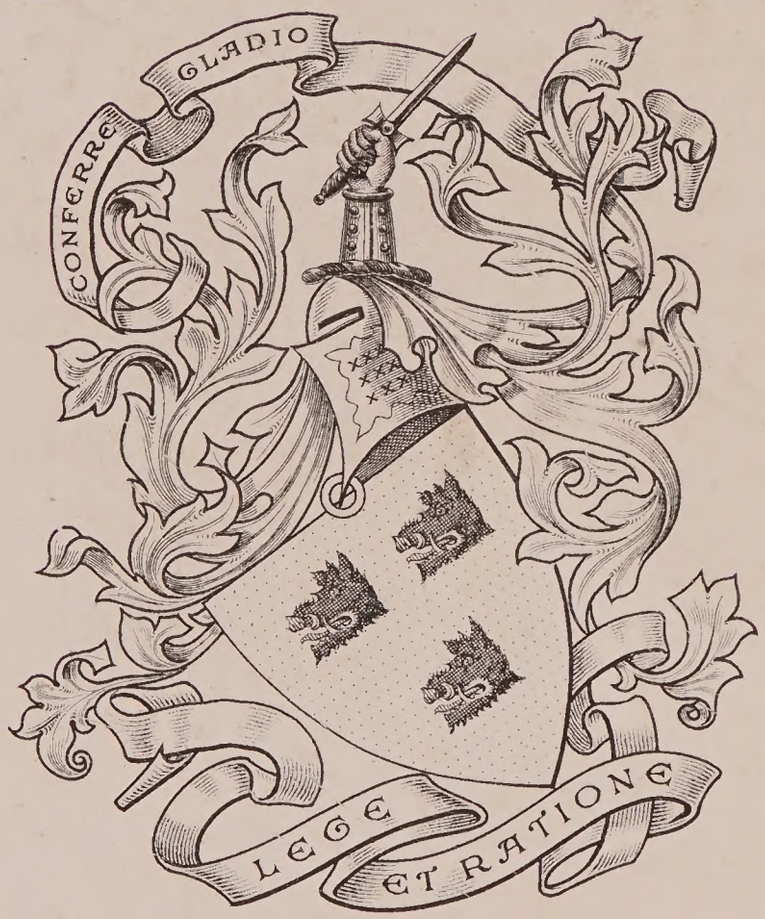

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THE

VETERINARY JOURNAL

AND

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The Veterinary Journal

AND

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JANUARY, 1895.

PREFATORY NOTE BY THE EDITOR.

It is always a difficult and sometimes a dangerous thing to enter into a new relation with one's friends, and the prudent man will ponder deeply and weigh carefully all the pros and cons of the case before he makes the irrevocable decision. The question that has to be considered is this—will my altered relation to my friends and the public be an improvement or a retrogression; will it forward or retard my projects; shall I stir up jealousy and suspicion, or shall I be able to remove the unjust jealousy which may already exist, and make clear the honesty of my motives and the simplicity of my plans? For it must be remembered, though it may not be very creditable to our common human nature, that the first consideration with nearly every man, when a shuffling of the social cards takes place and our neighbour's relation to us is altered, is the consideration of his own safety. The strong tendency to tyranny that is apparent in, we may say, all mankind has the inevitable effect of arousing a feeling, if not of suspicion, at least of alertness in their neighbours when anyone seems to be favoured or privileged beyond the rest and the social balance has suffered interference. And the wise man must be prepared for this and lay his account for a little distrust, and, perhaps, a good deal of envy—even a little malignity of criticism—when he commences a new work. "A man succeeds in this world only at the point of the sword," says the French philosopher, and one must be prepared to concede this right to his neighbours whilst he claims it for himself.

But in taking over the Editorship of this journal I feel myself in a double difficulty. In the first place, it would be mere affectation of humility to talk of myself as an obscure or unknown man in the veterinary world. So far is this from being the case that I can safely say there is no prominent veterinary surgeon in the country whom I have not the honour of knowing personally, and there are many besides to whom I am known by my books. I feel, therefore, some tremors of anxiety—such tremors as the wildest horse never caused to me—in making my bow before the veterinary profession on the stage of periodical literature. To lose the friendship and esteem of my colleagues and my old pupils by any act of imprudence or forgetfulness would indeed be a terrible calamity for me, and I therefore experience a certain timidity—which I trust is pardonable—in proclaiming my new venture. At this, the outset of my career as the Editor of a magazine, I can only ask the forbearance and indulgence of my readers whilst I assure them that only the very gravest considerations, and no mere idle vanity, could have induced me to take up so important and responsible a position. In another paragraph I sketch out the policy which I intend to adopt in the conduct of this journal, and this policy, I sincerely trust, will meet with the approval of my friends and the public, and so remove all misunderstandings and disarm all hostile criticism.

My second difficulty is a much more serious one, and I fear almost to approach it. To explain what I mean I cannot do better than quote the words of our great poet:

> In a theatre, the eyes of men,
> After a well-graced actor leaves the stage,
> Are idly bent on him that follows next,
> Thinking his prattle to be tedious.

My readers will sympathise with me, and understand the hesitation which I felt when I was asked to follow such an illustrious editor as Dr. George Fleming. To take up the position of Editor of this journal in succession to a man of Dr. Fleming's brilliant literary powers and distinguished scientific career is inevitably to invite comparison, and, I fear, comparison to my disadvantage, perhaps mingled with some surprise at my boldness. Yet, on the principle of "Never venture, never win," I resolved to accept the difficult post, and to trust here also to the forbearance of the public.

It is the custom in the French Académie, when a new member is elected to a place amongst the illustrious forty, for this new member to commence his career by pronouncing

a eulogy on his predecessor, and such an example may not be out of place in an editorial preface. There is this fortunate difference in my case, that I have not to pronounce a eulogy on a deceased friend. Dr. Fleming is still among us, and still full of vigour and energy, as he is full of honours and distinctions. I am sure I express the wishes of all the readers of this journal when I express the hope that he may long be spared to adorn our profession and to serve his country. We have need of men of this stamp, men of eloquent voice and powerful pen, to aid us in our struggles and advise us in our perplexities; and, whilst we thank the Fates for sending us wise counsellors and able advocates, we must not forget that we also have our part to perform in honouring such men and seconding their efforts.

Again, "I am a plain, blunt man," and not given to eulogising anybody; but I feel that it would be unbecoming, that it is indeed indispensable on my part, to allow the present occasion to pass without mentioning a few at least of the meritorious services which Dr. Fleming has performed on behalf of his veterinary colleagues. His own modesty has probably prevented the readers of the VETERINARY JOURNAL, or at least the younger among them, from guessing the importance of the task which Dr. Fleming set before himself at the beginning of his editorial career, and in due time accomplished; but all the more is it incumbent on me to proclaim these merits.

George Fleming has been the editor of the VETERINARY JOURNAL for twenty years, in fact ever since it was established, and he has during all that time, with marked ability and firmness, advocated the cause of the veterinary profession, and not only obtained the redress of many grievances, but procured for us many advantages. We can never be sufficiently grateful to him for the important part he took in obtaining from Parliament the "Veterinary Surgeons Act," whereby our profession received a distinct social recognition, and was raised, in accordance with its merits, to a position second only to the medical profession. Up to the passing of this Act any ignorant farrier or shoeing-smith could call himself a veterinary surgeon, and might exercise his barbarous ingenuity on poor dumb animals, but after the "Veterinary Surgeons Act" became law all such abuses were made illegal, and the term "veterinary surgeon" and the letters M.R.C.V.S. became a title of honour, as well as a guarantee to the public that the person privileged to use them had undergone a thorough professional training and

possessed at the very least a sound basis of scientific knowledge and skill. It is hardly necessary to add that at the same time care was taken in framing this Act not to do any injustice to men who, without having undergone special training, had for five years previous to its receiving the royal sanction been in practice as farriers, and who might have been, by a stringent application of the new law, practically deprived of their living. It was thus that Dr. Fleming and his coadjutors succeeded in combining justice with mercy and generosity.

It would take a long time to enumerate all the honours to which Dr. Fleming has attained. He was for years principal Veterinary Surgeon to the British Army, and was honoured with the title of Doctor of Laws by the University of Glasgow. He has been President of the Council of the Royal College of Veterinary Surgeons, 1880, 1, 2, 3, 4, 6 and 7; has held office as Examiner since 1872 to the present time, and is the author of many works which are of great value to the profession. I have no doubt the word Examiner sends still a shudder through the hearts of my readers, as they recall—or anticipate—the terrible and critical quarter of an hour in front of the dread being who, in his wisdom, decides the fate of trembling mortals, and seems to be guided by no principle which admits of prognosis by the student. But I think everyone will admit that in Dr. Fleming the unhappy candidate meets an examiner who is at once courteous and firm, who unites thorough knowledge of his subject with skill in asking questions, who can in a moment detect the difference between ignorance and mere timidity, and who is perfectly able to find out, by his rare tact, what a candidate knows on the various points that come under review during an examination, and gives the candidate full credit for that knowledge when he pronounces his final verdict upon him.

In a word, we find in Dr. Fleming a combination of qualities such as is rarely met with, and we have much reason to be proud of this ornament of our profession.

LATHYRUS SATIVUS, THE VETCHLING.

BY R. STEWART MCDOUGALL, M.A., B.SC.

THE natural order Leguminosæ includes a very large number of plants having among them very diverse properties, some being nutritious, others purgative and astringent, and still others poisonous. The order is divided into three suborders :—(*a*) Papilionaceæ, (*b*) Cœsalpineæ, (*c*) Mimoseæ.

The Papilionaceæ is the sub-order that concerns us, and contains such well-known plants as lupins, whin, broom, clover, medicago, vetches, lathyrus, haricot-bean, scarlet-runner, peas, gram, lentil. In view of what I shall have to say later on it is worthy of note that among ancient nations some of the pulses were reckoned unclean, the bean for example, which Pythagoras condemned to his disciples because the constant use thereof dulled men's wits and caused many dreams; while others declared that therein dwelt dead men's souls, and that, therefore, at least, the "bishop should not eat beans."

THE VETCHLING (*Lathyrus Sativus*).

One of the tribes of the Papilionaceæ is the tribe *Vicieæ*, including such genera as lentil, pisum, cicer, vetch, Lathyrus. The genus vetch and the genus Lathyrus have many points of resemblance, and it is not easy to give absolute characters to emphasise their difference, but generally it may be said that while both are climbing in their habit, the plants of the genus *Vicia* have more numerous leaflets, the leaflets of the genus Lathyrus being few, one or two pairs, and sometimes none. A more scientific distinction is that the "style" of a vetch is thread-like and ascending, with no conspicuous dilation towards the apex, whereas the style of a Lathyrus is often bent, and is dilated towards the apex. The genus Lathyrus is made up of a large number of species, of which 10 or 12 are indigenous to Britain, among them such well-known plants as L. sylvestris (the narrow-leaved everlasting pea), L. latifolius (the broad-leaved everlasting pea), L. tuberos as (the tuberous vetchling), L. pratensis (the meadow vetchling), L. hirsutus

(the hairy vetchling), L. aphaca (the yellow vetchling), and so on.

Incidentally I might call attention to one of the suggested derivations of *Lathyrus*, viz., "la" augmentative and "thouros," anything exciting (in reference to the qualities of the seeds). *Lathyrus sativus*, an annual, is not a native of Britain, although a correspondent in the *Gardener's Chronicle* reminds us that not so long ago it was to be found in our gardens under the name of L. coeruleus, and appeared in seed catalogues under the title of L. azureus, or Lord Anson's pea.

It has been long cultivated in the south of Europe as a fodder plant, and, according to De Candolle, was indigenous, before cultivation, in the region extending from the south of the Caucasus, or of the Caspian Sea, to the north of India, "spreading thence towards Europe in the track of ancient civilization."

There are several varieties of L. sativus, showing slight differences in colour of flower, size and colour of seeds, in colour of foliage (darker or lighter), and strength of growth. I wish to refer specially to two varieties, viz.—1stly, by the L. sativus, with small dark-coloured seeds, known in India as Khesári pulse, or Latri, or Matar. The terms Matar, Muther, Mutter, are all names used in India for peas generally, and the L. sativus, imported from India, is well known in Britain under the name "Mutters." Secondly, Lathyrus sativus, the white variety, with larger pale-coloured seeds, which are popularly spoken of as the seeds of the dog-tooth vetch, or the dog-tooth pea. Many inquiries are being made up and down the country as to what genus or species these latter seeds are to be referred to. Through the kindness of Professor Balfour we have been able to rear plants from these large wedge-shaped seeds, with the result that the seeds are seen to belong to Lathyrus sativus, "weisse," the white-flowered variety of the continent, a result confirmed by one of the greatest living authorities on seeds, Prof. Noble.

As to a general description of the plant. Lathyrus sativus, although an annual, may be treated as a biennial by planting late, say in early autumn, when, by due care, and in favourable conditions as regards soil, the plant will flower in spring. The leaflets are in single pairs, oblong or lanceolate in shape, and with a three-parted tendril between them. The flowers, which are solitary, may be bluish, or they may be white. The plant may grow to a height of three feet or so, obtaining support by its tendrils. The fruit is a small, smooth-winged, several-seeded pod.

The seeds vary in colour and size, but all have the characteristic wedged, angled, or hatchet-shaped appearance.

Here is a table showing colour, size and weight of certain samples examined by Harz :—

Locality.	Colour.	Largest diameter.	Weight of 100 seeds in grammes.
..	greenish yellow	10·1	20·871
..	reddish yellow	10·3	25·830
Austria ..	yellowish green	9·5	23·756
Sicily	pea coloured spotted ..	12·	41·423
Bohemia ..	reddish pea coloured ..	8·3	16·637
Verona ..	pea coloured	15·	56·545
Greece ..	coloured, partly faint pea, partly brown ..	7·6	18·438
Sicily	pale pea coloured ..	14·7	48·991
East India ..	dark marbled on a brownish ground ..	7·1	13·619
East India ..	deep reddish brown, black spotted	7·5	16·527

A note of different analyses may be found useful. Church in his Food Grains of India, gives for the Indian variety :—

	In 100 parts.
Water	10·1
Albuminoids	31·9
Starch and fibre	53·9
Oil	·9
Ash	3·2

The nutrient ratio is 1 : 1·75, the characteristic being the richness in nitrogenous constituents.

Harz found the Lathyrus to contain 84 per cent. of dry substance, yielding 25 per cent. of proteid stuff, 1·9 per cent. of fat, 54·5 per cent. of non-nitrogenous extract, 4·1 per cent. of fibre, 2·9 per cent. of ash.

The seeds of Lathyrus sativus "weisse" (the so-called dog-tooth vetch), grown on chalky, loamy soil, contained in 100 parts of air dry weight—

Water	12·31
Ash	2·19
Cellulose	4·44
Starch	31·10
Other non-nitrogenous substance	26·42
Proteid	23·63

100 parts of the ash yielded :—

Potass	45·13
Chloride of sodium	2·28
Lime	10·86
Magnesia	3·72
Iron oxide	0·44
Phosphoric acid	21·86
Carbonic acid	9·78
Sulphuric acid	4·96
Silicic acid	0·98

Cultivation.—In India it is sown about the close of the rains (October), in heavy clay soils, and on land hardened through submersion, and occasionally in rice-fields before the rice is cut. It may be reaped in March; many thousands of acres may be under the crop. Full particulars as to cultivation and acreage may be found in Government reports and in Watt's Economic Products of India."

Parts of the plant used as food.—(*a*) The green parts may be cooked and eaten by the poor people; (*b*) Grown as fodder for cattle in India. In an herbal dated 1829, Lathyrus sativus is mentioned as frequently sown in Switzerland for soiling cattle; (*c*) In India the young pod is eaten sometimes as a green vegetable; (*d*) The seeds are eaten cooked, or ground into flour, and made into bread.

Other uses.—(*a*) Used to adulterate the pigeon pea, Cajanus Indicus, known in India as dal. This latter pulse is much cultivated in India, and is held in much favour, being eaten to a very large extent roasted, or in cakes or curries, etc.; (*b*) The seeds are given to poultry. I have gone into several grain-dealers' shops in Edinburgh, and asked to see their feed for poultry, and have had no difficulty in recognising and picking out of the general feed seeds of L. sativus "weisse" (the so-called dog-tooth vetch), which had been added as an adulteration. Some of the grain-dealers did not trouble about the presence of the Lathyrus seeds, while others, more careful, informed me that if such adulteration showed itself in a sample they returned it. I found that the reason of refusal of a sample showing seeds of L. sativus did not rise from any decided knowledge that the Lathyrus sativus seeds had been known to be harmful, but the general impression was that they were "an inferior quality of pea;" (*c*) Dr. Voelcker has recorded several cases where mixed feeding cakes have shown themselves to contain on examination the seeds of L. sativus and bad effects followed the use of such.

The Effects of continued Eating on Man.—In the "Transactions of the Botanical Society of Edinburgh" I have gone fully into this aspect of the case, quoting representative evidence, which I need not repeat here. Suffice it to say that in the case of human beings using the pulse as a daily article of food paralysis of the lower extremities is the result. The attack is sudden, and the paralysis is incurable. As an old herbalist laconically puts it, "the disease is incurable, but being neither very painful nor fatal those who are seized with it generally submit to it with patience."

There are records of epidemics of paralysis following the use of L. sativus seeds, both in Asia and Europe. There seems to be a strong opinion that the pulse may be used as food, provided that a certain proportion be not exceeded. But I will return to this in dealing with its effects on horses.

How it Affects Horses.—A typical instance was the case, reported by the Messrs. Leather, of Liverpool, in 1884, where in a stud of 74 cart-horses, 35 became ill as a result of the Indian mutters being mixed with their food to the quantity 3 or 4 lbs. a day. Of the 35, 19 died, 2 were killed as useless, and 14 recovered. The symptoms, as described by the Messrs. Leather, were these: Sometimes the horses said to be affected seemed, when at rest, in perfect health, but on being exercised, particularly if the weather was cold, they were seized with dyspnœa and roaring, some dying from asphyxia, others getting relief when tracheotomy had been performed. There is a great body of evidence that, in cases of such attack tracheotomy gives an almost immediate and complete recovery. The Messrs. Leather reported another case, from Rouen, where, out of 54 horses belonging to an omnibus company, 29 were seized with illness, 9 dying, and tracheotomy being performed on the rest. This company had 300 horses, but only one stable showed attack, the one in which L. sativus was used. A closing reference in this connection may be made to the now famous Bristol Tramways Company case, where 123 horses out of a stud of 800 fell ill owing to feeding on L. sativus. As indicating the symptoms of attack, I quote from an interesting account by Mr. Challenger, the manager of the company: "The horses suffered from what was styled, for want of a better name, 'an epidemic of falling.' They would fall suddenly, without any accountable reason. Cab and carriage shafts were broken daily, as also were the car-poles." And again, "A horse being exercised was taken suddenly ill: it roared, its flanks heaved, its mouth was kept wide open, the nostrils were distended and the tongue hung out and became livid; it stared and staggered and threatened every moment to fall down strangulated or suffocated, and during this paroxysm, which lasted several minutes, the perspiration ran freely off every part of the horse." Severe exercise, or even ordinary exercise, is not necessarily, although commonly, the precursor of attack. Mere excitement is sufficient to induce a paroxysm, as testified by Principal McCall.

Climatic Conditions.—As in the case of men being attacked, so also with horses, cold weather was the time when the illness

asserted itself, and in wet, damp conditions. In the Messrs. Leathers' case the attack was in damp, cold weather and biting east winds; in Rouen, the month of January; in cases dealt with by Principal McCall, the early winter, and in Bristol, January, February, and March. As with man, so with horses the Lathyrus is a cumulative poison, the symptoms of poisoning showing themselves the sooner the greater the proportion of L. sativus seeds in the horses' food. Principal McCall states that 2 lbs. a day could be continued for six weeks or so before symptoms of attack showed themselves; while at Liverpool the Messrs. Leather fed 4 lbs. or 5 lbs. a day out of 20 lbs. of grain for three months. There is generally a certain proportion of horses that do not seem to be affected. Indeed, it is curious to learn from the evidence in the Bristol Tramways Company case that corn merchants in different parts of the country were in the habit of buying quantities of the seeds of Lathyrus sativus, and that, having sold it in mixtures for horses in proportions varying from 2 to 10 per cent., they had received no complaints. As far as experimental evidence is obtainable, such would seem to show that boiling the seeds before use renders them innocuous. In a number of cases dealt with in Glasgow and neighbourhood 100 bolls of the L. sativus seeds lay unused for some time until, by Principal McCall's orders, they were boiled, steamed into a pulp, and, when fed in quantities of 1½ lb. per night per horse, no bad effects followed.

Watt, in his valuable article, points out that there is a "certain capriciousness" in the effects of the poison on different individuals, and, adopting the view that the poisoning effects are due to a volatile alkaloid, he suggests that persons eating thin cakes made from L. sativus grain do not suffer, as all parts of the cake being thoroughly exposed to a high temperature, the poison is eliminated; whereas in food preparations exposed to only a moderate temperature, sufficient of the poison remains to act injuriously on those partaking of such foods.

In the examples quoted as to injury to human beings in India and to the horses in Liverpool, Glasgow, and Bristol, the small, dark-coloured seeds caused the harm. But there have been frequent references lately to horses showing the same kind of attack on being fed with mixtures containing the large white-coloured seeds of L. sativus "weisse"—the so-called "dog-tooth vetch"—in Bedlington, where a number of mine ponies suffered; at Eastwood 20 or 30 horses, at Newcastle 10 or 12, and again near Sheffield 12 horses.

I will take the last case as typical of the others, and it will be seen that the symptoms are the same as in the black-seeded variety, which, knowing that the dark and the light-coloured seeds are both L. sativus, is not surprising. Mr. Abson, of Sheffield, to whom I am indebted for a large sample of the seeds, tells how the Sheffield horses, first fed with the seeds in January, began, in April and May, to become thick in their wind; how they fell to the ground, and how on gentle exercise they were seized with roaring until, as before, tracheotomy was performed to prevent asphyxia.

(*To be continued.*)

NOTES ON THE CLINICAL HISTORY OF GASTRIC AND INTESTINAL AFFECTIONS IN THE HORSE.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

THE results of *post-mortem* examinations demonstrate that it is not possible to diagnose, with any degree of accuracy, the existence of gastric affections during life in many instances. No doubt we meet with cases which present those symptoms which are usually attributed to gastric, as distinguished from intestinal affections, and when such cases recover we are apt to consider that our diagnosis was correct. On the other hand, if they terminate fatally, and no autopsies are held, our knowledge concerning them is not increased, while, if examinations are made after death, we observe frequently that symptoms are very variable, and often deceptive.

There are some authorities, and some practitioners, who believe that by observing certain symptoms, such as the character of the pain, the amount of constitutional disturbance present, the condition of the pulse and respirations, the various attitudes assumed by the patient, the evidence obtained by a rectal examination, etc., they can differentiate during life between colic, gastritis, gastric impaction, acute gastric tympany, enteritis, volvulus, rupture of the stomach, etc. But these symptoms, although in some cases they may prove of value, in the large majority are not to be relied on as affording positive evidence of the existence of a certain lesion. Of course there are certain symptoms which, to the practised eye, quickly denote that a fatal termination is imminent; such as a pulse which is rapidly running down, a characteristic haggard expression of countenance, coldness of the extremities and sudden abdominal distention, with an apparent ease from pain previously acute. But even these,

along with any peculiarities of attitude which the patient may have assumed, will not warrant us in being too positive of the exact nature of the affection. At the commencement of many abdominal affections we cannot even be definite in our opinion as to the prognosis, as some, which may appear to progress favourably, often become serious; while others may present symptoms to our notice which would lead us to infer that a fatal termination would be likely to ensue, and they recover, to our surprise. However, the condition of the pulse and the amount of constitutional disturbance present, together with the character of the pain, are valuable aids to prognosis, although of little value in diagnosis.

We must consider the fact that when drugs are given for the relief of pain the symptoms of the affection are either masked or altered. Take, for example, the effects of large doses of opium or morphine in many horses. Here we have all the symptoms of cerebro-spinal excitement, the animal walking round the box continuously, or pawing with the fore feet, symptoms which are sometimes attributed to the disease, but which in reality can be produced in a healthy horse by administering these drugs. If we administer a drug which is an hypnotic as well as being an anodyne we prevent the manifestation of pain, although, in the case of a fatal affection, we cannot retard the inevitable result. Here, again, symptoms are masked, but in our choice of such a medicinal agent we are adopting our only chance of any success, which is to relieve pain, and if there is any probability of the diseased structure or organ returning to a normal condition we give it as much rest as possible. One point to which we should direct special attention is that when the stomach of the horse is distended with gas or with ingesta for a certain period, its walls become paralysed. Some experimenters have demonstrated that there is no absorption of drugs from the stomach of the horse, and this, in addition to the inability of the organ to propel its contents when its walls become paralysed from distention, will account for the non-activity of even large amounts of anodyne medicines administered in such cases. Is it possible to distinguish during life between acute tympany of the stomach, impaction of the stomach, and acute gastritis?

Cerebral complications frequently arise in all, so that diagnosis is rendered still more difficult. But it would be of importance to distinguish the presence of gastritis, if possible, because in the treatment of the others medicinal agents such as ol. tereb., aloes, etc., are indicated, while in the

former they are likely to do more harm than good. I must frankly confess that I have found it impossible to distinguish between them during life, and also that I have frequently found gastritis to accompany the other conditions.

The reasons why cerebral complications arise in some cases and are absent in others is a mystery, which is difficult if not impossible to solve.

The subject of gastric affections in the horse is one which offers a wide field for investigation, both as regards diagnosis and treatment, but neither are as yet in anything like a satisfactory condition. In a case of acute tympany of the stomach, in which the organ assumes an enormous size from distention by gas, we are anxious to ascertain some reliable form of treatment. If we could diagnose the condition, would it be possible to introduce the probang, and so allow the gas to escape? or is there a safe and reliable method of puncturing the organ with a trocar and canula? When the walls of the organ become paralysed, what drugs will restore the lost tone and prevent the reappearance of the gas?

Again, in the case of impaction of the stomach with solid ingesta, with the walls of the organ paralysed and the mass of food moulded so firmly into them that at an examination after death the mass assumes the shape of the viscus, of what avail can the skill of the therapeutist be?

Again, in a case of acute gastritis, with, perhaps, cerebral complications, we know only too well the little value of treatment.

At *post-mortem* examinations of such cases as these we frequently regret the course of treatment pursued, and often determine that at the next case we shall act with greater discrimination and with more success. But patients again die, and diagnosis is "knocked on the head" at the autopsy, with the result that we find the treatment still either erroneous or of little avail.

The following notes taken from my clinical case book may prove of interest as showing the variety of symptoms which may be presented in such cases :—

(1.) *Acute Gastric Tympany with Gastritis.*

Subject.—A chestnut hunter four years old.

History of Case.—Had always been a greedy feeder, and in consequence of having a slight cold was kept inside for a week, but fed as usual.

On the night of October 7th the owner heard the horse pawing in the stable, but did not consider that anything was

amiss. The groom on entering the stable next morning found the horse sitting on his haunches for a few minutes together, and then appearing to be in acute pain.

On my attendance, at 10 a.m., I found the animal assuming the position mentioned, the fore legs being advanced as much forward as possible; after resting thus for a few minutes he got up and pawed with each fore foot alternately, then laid down heavily and turned his head towards the right flank, and made frequent attempts to roll on his back. There was profuse sweating on both flanks and quarters, and the animal frequently groaned and stretched out as if trying to urinate. The pulse was quick, and rather wiry in character, the visible mucous membranes injected, the respiration hurried, and the abdomen hard and tense to the touch. I administered chlorodyne 3 ozs., spt. æth. nit. 2 ozs., and after a reasonable time, as this produced no effect, I gave ext. cannabis indica 1 oz. An enema was also given, which was quickly returned, and a rectal examination revealed nothing except extreme contraction of the part.

The symptoms continued, with short periods of relief; the animal would occasionally stretch out at full length on its side and groan, and endeavour to lie on the back. He frequently got up, and while doing so would sit on the haunches, this position appearing to give temporary relief. He occasionally rested on the sternum, with the fore legs advanced. The tail was constantly twitching, and there were frequent tremors of the muscles of both shoulders.

On visiting again at 12 o'clock there was no improvement, so I administered another ounce of ext. cannabis indica, also put him under the influence of chloroform. On recovering from this the pain still continued, but in a far less degree, and the animal obtained periods of apparent ease from pain, but occasionally was affected by twitching of the muscles. At 6 p.m. the pain again commenced, and 1 oz. of ext. cannabis indica was given.

Visited at 9.15 p.m., and found the animal pawing violently, sweating profusely on both flanks, pulse very quick and rather weak, found that he had taken bran-water of his own accord. Gave one ounce of ext. cannabis indica, also a hypodermic injection of morphine $9\frac{3}{5}$ grains, atrophine $\frac{1}{5}$ grain. In twenty minutes he commenced to paw violently with the off fore foot in different corners of the box, he kept his head in the manger occasionally, and moved the lips rapidly, as if taking food; eructations of gas occurred, accompanied by what I would term hiccoughs. He lay down

carefully, and rolled on his back occasionally, sweated profusely on both flanks, and occasionally sat on his haunches.

At 10 p.m. animal in same condition, so administered a similar dose of morphine and atrophine hypodermically, with no result.

At 11 p.m. repeated morphine and atrophine, and gave 2 ozs. of ext. cannabis indica as a last resource, as the pain still continued. The respirations were greatly accelerated and accompanied by a wheezing sound, with the nostrils dilated; the head was forced into corners and against the wall, the sweating all over the body was very profuse, the pupils dilated, pulse quick and weak, tympanitic condition of the abdomen, coldness of the extremities.

At 12 o'clock the animal appeared semi-unconscious, and ran against the door of the stall, forcing it out and also the wall; he then found his way into a garden, breaking up everything with which he came in contact, and steaming to a great extent all over the body. He next ran down a steep hill into a lawn, falling several times, then made a charge into a loose boundary wall, and succeeded in getting over it into a neighbour's garden, the constant tendency being to push forward, and we found him at last with his head firmly fixed in an apple tree: the respirations being accompanied by a shrill sound, and the body enveloped in a cloud of steam; any light seemed to distract him to a great extent.

On extricating him from this position he ran madly forward, falling about in a helpless manner, and so frightened those about him that one of them dispatched him by means of a poleaxe.

Post-Mortem Examination, Oct. 9th.—Body well nourished, but rather fat. Stomach enormously distended with gas, and the viscus appeared of extensive dimensions. It contained a large amount of unmasticated white oats. The mucous membrane of the villous portion was acutely inflamed in patches, and much thickened all over. Among the ingesta I found three of the boluses of cannabis indica which were administered. The small intestines were empty, and about the middle of the ileum there were two small patches of acute inflammation. The large colon was full of ingesta, containing a quantity of white oats not digested. Other organs normal.

Remarks.—The exciting effects during the last stages of this case must be ascribed to the large doses of morphine. The failure of the cannabis indica was probably due to the

paralysed condition of the gastric walls, as, in the majority of cases, a dose of 1 oz. will have a marked hypnotic effect.

(2.) *Acute Gastric Tympany, with Gastritis and Enteritis.*

Subject.—A chestnut farm mare, five years old.

History of Case.—Always healthy. On evening of Nov. 3rd was fed as usual, and was apparently well. On morning of Nov. 4th was found in acute pain, getting up and lying alternately, and rolling. On my attendance at 10.30 a.m. I found the animal standing, having been prevented by the attendant from knocking about. The pulse was quick and weak, respirations greatly accelerated, abdomen tympanitic, but full and tense to the touch, and tender on pressure; an anxious expression of countenance. On allowing her to lie, she stretched at full length, groaned frequently, and turned her head towards the right side; visible mucous membranes injected. She lay occasionally on the sternum, with the off fore leg advanced. The skin was abraided from this region. Gave chlorodyne 4 ozs., ext. cannabis indica ½ oz. Found it very difficult to get her to swallow the drench.

At 12 o'clock visited, and found pain continuous but not violent; abdomen very tympanitic, and patient has been passing flatus at intervals; would throw herself heavily if allowed, groans constantly. Gave ol. tereb. 2 ozs., æther sulph. 2 ozs., fl. ext. cannabis indica 2 ozs., ol. lini. a pint and a-half; also administered enema, which was quickly returned. Rubbed mustard and turpentine liniment into abdomen.

At 2 p.m. still in slow pain; gave fl. ext. cannabis indica 2 ozs.; in about 20 minutes the animal got quiet, and lay at full length in a drowsy condition.

At 8 p.m. the pain returned, so gave chloral hydrate, 2 ozs. in solution, and left a similar dose to be given in three hours if necessary.

The owner called at 8.30 a.m. next morning, saying that the pain had returned at 3 a.m., and he had given the dose left; also that she was quiet since, but before leaving there were occasional twitches of pain.

Visited at 11 a.m., and found the animal had a rather haggard expression of countenance, ears drooping, pulse quick and weak. The abdomen was greatly distended with gas. Punctured the intestine through the flank, and let off a large quantity of gas. Gave enema with long rectum tube, but it was not retained, and only brought away a small

amount of hard fæces. The extremities were cold, and there was quivering of the muscles of both shoulders. Made up dose consisting of æther sulph. 4 ozs., whisky 8 ozs., but while administering it the fluid was returned by the nostrils. The patient went down quickly and lay on the sternum with both fore legs crossed one between the other; there were feeble attempts at vomition, but no egesta appeared. The eyes were glassy in appearance, and cold sweats occurred, especially over the region of the shoulders. The animal got up a few times, but while doing so sat on the haunches for a minute or so, still continuing the feeble attempts at vomition. She wandered about the stall in a listless manner, shoving her head against the walls, and finally went down and died after a few convulsive struggles.

Post-Mortem Examination, Nov. 6th.—The stomach was enormously distended with gas, and contained a large amount of ingesta, consisting of hay and turnips. The villous mucous membrane was acutely inflamed, and of a dark colour. The small intestines were inflamed in patches, and the large intestines contained a large amount of hard ingesta, the mucous membrane of the large colon being also inflamed in patches. The liver was of a pale yellow colour, and very friable.

(3.) *Acute Gastro-Enteritis.*

Subject.—A six-year-old general harness gelding.

History.—No definite history could be obtained, as the carcase was brought to the kennels from the country, the owner stating that the animal, shortly after going on a journey and being fed, was seized with violent pain, and died in a rather short space of time.

Post-Mortem Examination, Oct. 26th.—Stomach was about half-full of unmasticated black and white oats, and there was hardly any tympany. The villous mucous membrane was acutely inflamed and thickened all over its surface. The small intestines were almost empty, and were inflamed in patches throughout. The colon, in its third and fourth divisions, contained a large amount of sand, and its mucous membrane was inflamed in patches.

(4.) *Acute Gastritis, with Gastric Impaction and other Complications.*

Subject.—An aged bay gelding, used for general carting work.

History of Case.—Up to Aug. 31st the animal had always been healthy, and in fine condition. On this day he refused

his feed, became dull and sleepy, and wandered about the stall in a listless manner, knocking his eyes and head against the walls, and forcing his forehead against any objects which came in his way.

My attendance was requested on Sept. 3rd, and I found both eyes closed up, and the skin abraided off different portions of the head. The animal had hardly eaten anything since Aug. 31st, but had been purging freely. The pulse was slow and feeble in character, temperature 101°; there was a profuse discharge of frothy saliva from the mouth, villous mucous membranes injected; there was great stiffness of the hind quarters during progression, the urine was of a dark colour, and the animal strained while micturating. I prescribed stimulants and small doses of belladonna, digitalis and spt. æth. nit.

Next day the owner called to say that he could not administer anything to the horse, that the animal got very violent, and got out of the stall into a drain, and while struggling therein he ordered him to be destroyed with a pole-axe.

Post-Mortem Examination, Sept. 5th.—Body greatly emaciated, a large amount of fat around abdominal organs. The stomach was enormously distended with a fermenting mass of bran, carrots, and potatoes, and was packed to its utmost, so that the contents were moulded to the walls of the organ. The villous mucous membrane was acutely inflamed all over, and covered with what appeared to be a layer of pus. The cuticular portion showed the membrane peeling off in patches. The small intestines were almost empty, and the large intestines contained a quantity of semi-fluid ingesta. The liver was enlarged, and its surface of a beautiful appearance, resembling red marble. On examination it proved to be that variety of hepatic affection known as "nutmeg liver." Both kidneys were enlarged, and the right one contained pus in the pelvis. The bladder was full of dark-coloured urine, and its mucous membrane was of a blackish tint. The heart was enlarged, and affected with fatty degeneration.

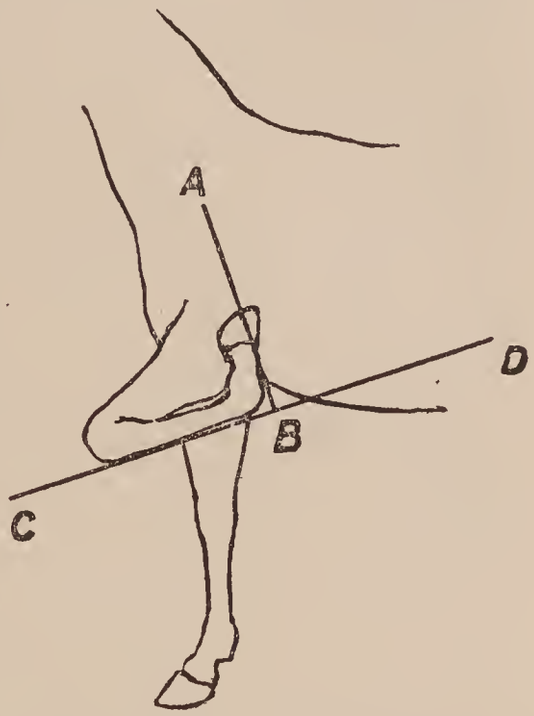
(*To be continued.*)

FIBROUS ANCHYLOSIS OF THE FETLOCK JOINT.

BY VETERINARY-CAPTAIN (A.V.D.) J. A. NUNN, D.S.O., F.R.C.V.S., PRINCIPAL OF THE LAHORE VETERINARY COLLEGE.

IN the July number of the VETERINARY JOURNAL for 1892 an article was published by Veterinary-Captain L. J. Blenkinsop and myself on "Fibrous Anchylosis," in which the

method of breaking down the adhesions in the fetlock and knee-joints was described. Since this article was written I have come to the conclusion that defective power of flexion of the fetlock-joint is a much more common cause of lameness than is generally supposed; also that in most horses that are beyond the prime of life the power of flexion of this joint is imperfect; whereas in young animals that have not done any work it is normal. I have lately taken 40 young animals under 18 months of age, and in all of them flexion of the joint was complete; but in 40 others, between 8 and 12 years of age, in only one was this so; the other 39 were all defective. These animals were not specially selected in any way. What I took for the normal degree of flexion was a line A B on the front of the pastern, making nearly a right angle with another on the front of the metacarpal bone, C D, and the stiffer the joint the more acute the angle A B D becomes.



EXPERIMENTS IN SHOEING HORSES WITH ALUMINIUM SHOES IN EGYPT—RESULTS—REMARKS.

BY W. LITTLEWOOD, M.R.C.V.S., CAIRO.

THE following horses were shod with aluminium shoes during month of May, 1893, under the supervision of Mr. Charman, who instructs native farriers, and is in charge of the shoeing of the Egyptian Government animals.

Horses Nos. 1 and 2, doing ordinary hack and driving work, wore out the shoes in 14 days, in one case a shoe was broken at the nail-holes in 7 days.

Horse No. 3, ridden by an orderly (police), doing hard and at times fast work, wore out its shoes in 11 days.

Horses Nos. 3 and 4, doing police patrol, wore out their shoes in 16 and 18 days respectively.

Horse No. 5, doing very easy patrol (police), wore out its shoes in 31 days.

Horse No. 6, doing transport work (police), wore out its shoes in 20 days.

Horses 1, 2, 3, 4, and 5 were working on macadamized roads in Cairo; horse No. 6 was working on paved streets in Alexandria.

Those horses shod with machine-made shoes (British Army pattern) rarely require a new shoe before a month, except in case of casting a shoe; in some cases the shoes are removed at end of month and again nailed on.

The advantage of the aluminium shoes are their lightness, and they would never be cast except they broke at nail-holes.

The disadvantages are:—Their cost, costing in Egypt about 7s. per set, the present shoe in use (British Army pattern) costing 1s. 5d. per set. The metal is too soft, spreading out over sides of hoofs after a few days' wear, and in horses with close action causing brushing.

AN UNCOMMON CASE.

BY VETERINARY-CAPTAIN R. MOORE, F.R.C.V.S., 12TH LANCERS.

AN officer in the regiment of which I have veterinary charge bought a chestnut gelding (first charger) at Tattersall's in the autumn of 1890, and the horse joining his new regiment apparently in good health; but it was soon, however, discovered by the groom, his owner, and the veterinary officer that he was a delicate horse, and required an unusual amount of care and attention. He was always a slow, "dainty" feeder, and easily "knocked off" his feed altogether by an unusual amount of work or excitement. Yet he was always able to do his duty fairly well, with the help of a rest for a week or two occasionally, and a little treatment for liver, which seemed to be his chief weakness.

During the first summer after purchase he suffered a little with congestion of the fore feet, which were unnaturally small; but this soon yielded to treatment such as physic, stopping the feet, poultices, steeping the feet in warm water, &c. The year following he had a swelling across the loins, which came without any apparent cause. This yielded readily to physic, fomentations, stimulating liniment, and mash diet. Since the disappearance of that swelling, and particularly during the last year (1894) we have noticed atrophy, falling away or diminution of the size of the muscles in the lumbar region.

His skin has never been thoroughly healthy during these years, and the coat has been a constant trouble. It was always dull and very long, considering that the horse was a

thoroughbred. He never cast the coat, like other horses, in the spring of the year, but carried it far into the summer; then it would be cast, and another long coat produced immediately. Of course, I was often asked why the coat was so troublesome, unhealthy, unsatisfactory, and long. My answer was that the horse might have been born out of due season or late in the summer, in which case he would be longer in casting his coat; or that his kidneys were not acting naturally, and that the skin had to assist them in casting off the effete materials of the system, which materials (urates of soda, &c.) stimulated the growth of the hair and kept the coat dull. There was no other sign or symptom of kidney disease, unless the swelling on the back should have been taken as such.

The horse never did well in Edinburgh; he never fed well, and his liver seemed to be easily deranged. The conjunctiva would suddenly become heightened and tinged with yellow, this being accompanied by a slight rise of temperature. These symptoms would disappear equally suddenly after the administration of a ball containing a scruple of calomel, and a dram each of the extract of belladonna and camphor; 2 ozs. hyposulph. soda being also given daily in the drinking water for as many days as were necessary.

The owner ceased to use the horse towards the close of this drill season, after a day on which the horse seemed scarcely able to carry him home. On examination I found him suffering from one of his old liver troubles. There were no symptoms of disease of the kidneys, yet my thoughts often travelled to them, giving them due consideration. I had some of the urine sent to the New Veterinary College for analysis, but before I got the report the end came in a remarkable manner.

The owner was doubtful as to whether he should have the horse clipped or not, and asked my opinion regarding it. I told him that I recommended the horse to be clipped, as I was strongly under the impression that the kidneys were at fault, in consequence of which the work of the skin was unduly increased, and that it would be greatly relieved by the removal of the hair.

The horse was exercised in the barrack square on the two following days, and he was so lively that the groom had all he could do to manage him. On the following morning he was clipped, and about midday the grooms began to singe him, when something occurred to frighten the horse and to make him plunge in the box, with the result that his

hind feet slipped from under him, and he fell heavily, and was unable to rise again. I was sent for, and found on my arrival that the horse had received an injury to the back, and that his hind quarters were paralysed. To make sure that my diagnosis was not at fault, I had him raised to his feet by strength of men; but all to no purpose—he could not stand. I thought the off hind leg was injured at its superior extremity; but as he was lying on that side, my manipulation was impeded, and, of course, it was of little moment what else was injured when the back was broken. I ordered a subcutaneous injection of morphia, and three hours after I returned, and was just in time to see him die. The paralysis had reached his fore quarters, but he was working his head and neck like a mad horse—the congestion or inflammation proceeding from the injury to the cord having reached the brain. He died in ten minutes after my return.

Post-Mortem Examination.—On having the carcase turned over, it was found that the pelvis was fractured, as well as some of the ribs about their middle third. The skin was removed, and the examination continued. On cutting into the abdomen a large quantity of blood was found, which had escaped from blood-vessels punctured by the sharp edges of broken bones. The bowels themselves were normal, the spleen thin and flabby, the liver extensively diseased, small, yellow, and exceedingly friable. Both kidneys were diseased, particularly the left one, which was simply held together by its capsule; lungs and heart healthy.

Fracture of the spinal column had occurred in two places, viz., between the sacrum and last lumbar vertebræ, and between the seventh and eighth dorsal vertebræ; simple fracture of the shaft of ileum, comminuted fracture through the acetabulum, and comminuted fracture of pubis; fracture through the upper third of five ribs on the off side, and fracture through the *lower third* of several ribs on both sides.

Examination of Urine.—Pale; sp. gr. 1016; slight precipitate of albumen; no sugar.

Microscopic.—A few corpuscular elements and epithelial cells.

Bones.—Light and spongy.

THE EDITOR'S POLICY.

In taking over the Editorship of the Veterinary Journal I have determined to pursue a definite line of policy, which I propose now to lay before my readers.

I know quite well that a journal which, pretending to be an organ of public opinion, degenerates into becoming the mere mouthpiece of a clique, or even of a party, is certain to fail. Nothing is so fatal to a newspaper or magazine as rigidity. When the public finds that the opinions in a particular journal have become stereotyped and can be guessed beforehand, it quickly loses all interest in the publication, and goes to seek inspiration elsewhere. My intention is to make the VETERINARY JOURNAL, as far as my judgment permits, a fair and impartial tribunal where all kinds of questions affecting the welfare of the veterinary profession may be discussed, and will receive a patient and attentive hearing. I have, as probably some of my readers —especially of the younger generation—are quite well aware, very pronounced and definite opinions on many points, and I shall take care to enunciate and defend these opinions when occasion demands, but I am not going to be so foolish as to try to cram them down the public throat at the point of the bayonet. I will here quote the pregnant words of J. R. Lowell as expressing my opinion better than I could express it myself:—"There is a principle underlying every phenomenon in human affairs, but there are always two sides to every question, both of which must be fully understood in order to understand either; further, it is of greater advantage to an advocate to appreciate the strength than the weakness of his antagonist's position."

I am prepared, then, to make the pages of the VETERINARY JOURNAL, like the pages of more ambitious periodicals, the arena in which the athletes of our profession may display their strength. Here they will find a fair field and no favour. I shall rejoice to see the younger bloods wrestling with one another and striving for the honour of the world's applause.

I shall permit no personal animosity to show itself, no spitefulness or vindictiveness. Opinions may be assailed, even my own august editorial opinions, with the utmost vigour, but private character must be regarded as sacred. Nothing is to me so contemptible and so loathsome as a public journal which has become a theatre for the display of ignoble feelings, and of bitter, rancorous, narrow prejudice.

In commending this new venture of mine to the indulgent consideration of the veterinary and medical public, I rely upon the spirit of fairness, the disposition to give every man a chance of defending himself, which has ever been the characteristic virtue of the British reading public.

THE LATE PROFESSOR WALLEY.

WIDESPREAD regret will be felt in Edinburgh, and in veterinary circles throughout the country, at the announcement of the death of Professor Walley, who for 20 years had occupied the position of Principal of the Royal (Dick) Veterinary College in Clyde Street. Professor Walley's first connection with the College was in 1871, when he was appointed Professor of Anatomy. Two years or so later a rearrangement took place, whereby he was made Principal and Lecturer in Veterinary Medicine and Surgery, Obstetrics, and Materia Medica. The fortunes of the College were at that time at a very low ebb, and it was in great measure due to the Principal's untiring industry and zeal in the performance of his manifold duties that the school gradually rose to the high position which it now occupies. It is only two years since he celebrated the attainment of his majority as a teacher of veterinary science by delivering an inaugural address at the opening of the seventieth session of the College, and he then expressed his gratification at seeing in the large audience of students before him the evidence of the success of his many years of labour. The Professor was a great favourite with his students, whom he always treated with kindness, and in whose welfare, both present and future, he took an almost fatherly interest. He was for many years a member of the Council of the Royal College of Veterinary Surgeons, and took an active part in its deliberations, and in 1884 he was elevated to the presidential chair. He was a strong supporter of the party in the Council that strove for progress and the raising of the educational standard required for obtaining the diploma of the College. Besides carrying on tutorial work at the Dick College, Professor Walley was engaged in an ever-increasing practice, and his professional skill was sought after, not only all over Scotland, but also across the Border. For many years he has held the office of Veterinary Inspector for the City of Edinburgh, and he was also Inspector under the Board of Agriculture; but, despite his multifarious duties and engagements, he found time to write some important educational works, besides numerous papers on veterinary science, which have appeared from time to time in the professional journals. He took a great

interest in the question of the transmissibility of diseases from animals to men, and relative questions of public health coming within the sphere of the veterinarian. At the beginning of the present session the Professor was found to be suffering from phthisis, and a change to a milder climate was ordered by his medical adviser. Accompanied by Mrs. Walley, he went to Jersey, where, after little more than two months, the intractable disease ran its rapid course. Professor Walley will be much missed in scientific veterinary circles, by his colleagues at the Dick Veterinary College, and by a large number of old students, many of whom are now occupying high places in the profession. He leaves behind him a wife, one son, and three daughters, one of whom is married to his old pupil, Professor M'Fadyean, who was this year appointed Principal of the Royal Veterinary College, London.

ON SOME RECENT ENACTMENTS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

In discussing this delicate matter I feel that I am treading on very thin ice. I fear that I can scarcely claim to be an impartial judge when my personal interests are so largely concerned, and I frankly avow that what I am going to say is a bit of special pleading, and must be regarded as such. Still, I am true to the principles which I have proclaimed above, and I acknowledge that there are two sides to this as to all other questions, but I am ready to debate in a quiet and dispassionate manner the important subject of veterinary education, to which I have devoted so large a portion of my professional career.

I would begin by reminding my readers that veterinary education has not yet attained national recognition, nor the importance which it deserves. There are just four colleges in the United Kingdom where veterinary science is taught, and of these four three are in Scotland—namely, Professor McCall's, in Glasgow, and the Dick College and my own in Edinburgh. All the Scottish colleges owe their origin and their prominence and efficiency to private enterprise. A good deal of private capital is invested in these concerns, and the prosperity, I might say the personal security and the very life, of many individuals may be affected by hasty or inconsiderate legislation. It might not require a great deal

to throw the balance of the profit and loss account of these institutions on the wrong side, and if they were once closed and the teaching-staff dispersed, it might not be so easy to reconstruct them. Perhaps this is a matter of little importance, except to the victims.

My next plea is that to raise suddenly the standard of qualification for entering our profession, besides proving injurious—possibly fatal—to the colleges, may unduly discourage the young men of the country, and inflict an injury upon the whole nation. It is quite intelligible that some members of the profession, either from selfish or from mistakenly refined motives, may wish to see the number of their possible competitors reduced to within narrower bounds. This is one of the weaknesses of humanity. We wish, nay, we demand with much clamour, that every door be left open for our entrance; but as soon as we have entered we fancy that the room is quite full enough to be comfortable, and we become as clamorous for the shutting of the door as we were formerly for its opening. But what about the people who are still outside? Have they not equal rights? Are we sure that they have not the same claim to admission? Here is the crux, here lies the kernel of the whole matter. Let every man put this question honestly to himself and give an honest reply. I wish to impute false motives to no one, to judge no man harshly: I merely desire that this important matter be considered in all its bearings, in order that there may be no vacillation in the policy of the Royal College. At the same time it is my duty, as an old and experienced teacher, to place the results of my experience before the world, and warn my professional brethren of the risks which they seem to me to be running. My experience of life, and it is a long one, is that the establishment of a false principle is always fatal, and always reacts on those who establish it.

I would be glad to see the standard of general culture raised, if it were possible to do so with safety; but I always feel that to impose a merely literary test on our candidates is not the best and surest way of discovering the men who are likely to turn out the most capable surgeons. We may select thereby studious men—men who will distinguish themselves in the laboratory or the dissecting-room, and may write learned treatises—but the number of such men that we require is very small indeed compared with the number of strong, active, vigorous men who have to face the tasks of the ordinary practitioner. It is quite right to impose a severe literary test on young men entering a literary

profession, such as the Church, the Law, or the Schools, but it is quite a different case when we have to deal with those who are preparing for a scientific career, and still more so when the career is beset with so many practical and physical difficulties as is that of the veterinary surgeon. A distinguished military officer, a man of great tactical skill and profound knowledge of the world, who is now well up in years, said once that if the present rigid system of entrance examinations had prevailed when he was a lad, he could never have passed them.

It occurs, rather appropriately for my argument, that a mistake of this very nature has been committed by the Scottish Universities; and I cannot refrain from quoting, in support of my contention, a few passages from a very severe article which appears in the *Scotsman* of December 8th:—

> The results of the first examinations held by the Board in October were published recently, and they are both surprising and disappointing. The total number of candidates who offered themselves in Arts and Science and in Medicine in the four Universities was 1,850, and of these no fewer than 856, or 46 per cent., failed. That is to say, the gates of the Universities have been closed for the present session against nearly one-half of those who proposed to enter them. The result reflects severely on the secondary schools of the country, for it means that about one-half of the scholars whom they prepared for the Universities are, according to the standard of the University authorities, unfit to enter them. . . .
>
> The outcome of the examinations as a whole casts grave doubts on the wisdom with which the scheme has been carried out. It is certainly very desirable that the standard of entrance to the Universities should be raised, but it is surely indiscreet to force the standard up with undue haste and suddenness. The result of such a course is injurious to the Universities, perplexing to the secondary schools, and disastrous to the unsuccessful candidates. To take the lowest ground, the Universities can ill-afford to dispense all at once with nearly one-half of the students who, under the former conditions, would have been admitted within their walls. The rejection of 856 students means a loss to the University incomes of at least £8,000—£2,000 to each University on the average, and £3,000 to each of the largest Universities. Moreover, to a large proportion of the students who had prepared themselves to meet the former standard, this sudden elevation must bring serious consequences. It means that many young men who had devoted themselves to professional life will be excluded from that mode of earning a livelihood at an age which will disqualify them for engaging in other pursuits. That is obviously unfortunate, if not unfair. The policy is unjust to the secondary schools which prepared their scholars for the Universities; it is unjust to these Universities, which depend on the schools for their annual supply of students; and it is, therefore, unjust all round. The blame for this untoward result rests, of course, not with the Commissioners, but with the joint Board of Examiners which they created, and which has evidently indulged to an unwarrantable extent the proverbial tendency of new brooms to sweep clean.

The *Scotsman* then proceeds to give details of a new Uni-

versity body, to be shortly created, which shall control the operations of this over-zealous Board of Examiners.

As for the extension of the curriculum in point of time, it might be thought that such a change would gratify the teachers, as giving them a longer hold on their pupils. But it is a sword which cuts both ways. An additional year's fees, an additional year's board and lodging for his son, a diminished chance of admission to other careers on account of age, should that son fail at the end to satisfy the examiners—all these are very serious considerations to the average parent, and make him reflect carefully before he sends his boy to study veterinary medicine. These are democratic days, and men are averse to everything that savours of monopoly or exclusiveness. We may be sure that Demos will insist on his rights, whatever they may be found to be, and we veterinary teachers cannot blame him, seeing that he supplies, and has all along supplied the best—that is, the hardest-working pupils for our schools.

FOREIGN BODY IN THE PHARYNX OF A COW.

FRANK B. PEARSON, M.R.C.V.S., CHESTERFIELD.

THE peculiar penchant which cattle have of collecting and ingesting foreign bodies, such as nails, tin-tacks, needles, &c., is well known; but, as a rule, these bodies pass through the pharynx and œsophagus without causing any injury to these organs; the favourite seat for their lodgment being the reticulum, the mucous membrane of which seems almost to have been arranged purposely for their interception. An exception to the general rule will, however, be found in the following case.

On the 28th November last I was desired by a client to see one of his cows which, he said, had not partaken of her usual mid-day meal.

The symptoms presented were as follows:—A profuse flow of saliva from the mouth; general signs of uneasiness, among which we may place frequent urination; considerable difficulty in swallowing solid food, such as hay, &c., water, however, could be drunk with comparative ease; a small diffuse swelling was found on the left side of the throat, just behind the angle of the inferior maxilla. On enquiry, I ascertained that this had not been present the day before. On manipulating this swelling the animal evinced great pain, from which I came to the conclusion that some foreign body had become lodged in the pharynx; nothing, however, could be found on passing the hand as far as possible into the pharynx.

On the following day the swelling was considerably larger. Further ineffectual attempts were made to reach the foreign body, and as the animal was in good condition, I concluded that the most satisfactory course would be to have her slaughtered. In making a *post-mortem* examination, I found a large darning needle, four inches in length, passing obliquely outwards and backwards through the left wall of the pharynx and into the surrounding structures. About half-an-inch of the blunter end of the needle projected into the pharyngeal cavity.

URINARY DEPOSIT IN THE COW.

THE occurrence of cases of sabulous deposit in the bladder is, perhaps, not so common as to render the following case entirely devoid of interest.

In October I received a sample of urine from Mr. E. W. Anderton, M.R.C.V.S., Maybole, and the following particulars of the case. I quote, as much as possible, from Mr. Anderton's letter.

"A cow had been ailing for about ten days, but had a fairly good appetite until October 8th. On October 9th there was noticed great difficulty in urination; on rectal examination the bladder was found to be much distended. This distention was relieved by the catheter." Some of the urine so obtained was forwarded to me for examination.

In the same letter Mr. Anderton says that digestion seemed to be considerably deranged, as oats were passed in an undigested state.

Notes on Examination of Urine.

Macroscopical:—Very high coloured, resembling very closely that seen in cases of "red water." On standing, a yellowish deposit formed. An abundant precipitate of albumen can be obtained. Alkaline in reaction. Sp. gr. 1020.

Microscopical:—Numerous crystals of uric acid and triple phosphate (ammonia-magnesia phosphate) are present, as well as blood and pus corpuscles, and a few fat-globules. The corpuscular elements are partially broken down, forming a glandular *débris*.

From the above examination, a suspicion was raised that it was a case of urinary deposit.

My next communication from Mr. Anderton bears date October 26th, and in it he says that the cow had died on the 25th, and that a portion of the urinary bladder had been forwarded. This portion was to be taken as fairly representative of the condition of the entire organ. It showed on the mucous membrane a deposition, to the extent of about an inch in thickness, of sabulous matter (principally triple phosphate). The muscular coat was considerably thickened by the formation of fibrous tissue, showing that the irritation must have been of considerable duration.

The point I wish to emphasize is the great assistance to diagnosis afforded by a microscopic examination of the urine in such cases; for, as in this instance, manual examination, per rectum, may give negative results.

My thanks are due to Mr. Anderton for the kind manner in which he placed his notes at my disposal.

THE ANTI-TOXIN EXPERIMENTS.

THE news that the Metropolitan Asylums Board had sanctioned experiments in their hospitals in the use of the anti-toxin cure brought a deputation to the Board on Saturday to present a memorial against the proposals. The deputation was largely composed of ladies, but it was introduced by Lord Coleridge, and included Canon Wilberforce, Canon Percy Smith, Mr. Pickersgill, M.P., and Mr. Cyril Drew.

Lord Coleridge explained that the deputation had been got together in a hurry because it was announced that the Board would that day receive a report from the General Purposes Committee in favour of giving the medical superintendents in their fever hospital facilities for applying a remedy known as anti-toxin treatment. The General Purposes Committee inquired of the Colleges of Physicians and Surgeons, and the British Institute of Preventive Medicine, upon what terms they would supply the anti-toxin; and the substance of the reply was that these colleges were prepared to supply the anti-

toxin to the medical superintendents if the Board would provide accommodation for keeping on one of their farms a number of horses, and pay the incidental laboratory expenses. He understood that the General Purposes Committee had decided to accept the proposal upon the terms offered. Upon the knowledge of that decision the deputation determined to come and make their views clear to the Board. Plainly put, what was asked was that the Board should keep several horses at the public expense; the horses were to be inoculated with a quantity of serum to be supplied by the colleges, these horses thus inoculated were to be bled, and it was calculated that each horse would supply a gallon of blood a week, and that the blood thus obtained was to be used for the purpose of inoculating patients in the hospitals under the control of the Board, with the view of mitigating or curing the evils or dangers of diphtheria. What the deputation wished to submit was that public money should not be devoted to experiments in physiology, where the patients were not in a position clearly to understand the bearings of the question and the experiment to be performed upon them. It ought first to be proved that inoculation was a cure, and that while it cured one thing it caused no danger of anything else. He reminded the Board of the failure of Professor Koch's cure for consumption, and other vaunted cures that had failed, and quoted Professor Bergmann and Professor Virchow as dissatisfied with anti-toxin treatment.

None of the managers asked members of the deputation questions, and upon its withdrawal the clerk read the return of the patients in the Board's hospitals, showing that the fever patients numbered 2,807, including 446 diphtheria cases. Small-pox patients numbered thirty-one.

Mr. Scovell then presented the report of the General Purposes Committee, which recommended the adoption of the offer of the Royal College of Surgeons to supply anti-toxin. He moved its adoption, and was seconded by Sir J. Tilley. An amendment that the report be postponed for three months was moved by Mr. Brass and seconded by Mr. Robins. A discussion took place, but in the end the amendment was rejected by thirty-eight votes to seventeen votes, and the report adopted.

POLICE AND "THE CONTAGIOUS DISEASES (ANIMALS) ACTS."

Sir,—I notice in your issue of Thursday last a paragraph stating that all the constables in the county of Perth have been appointed inspectors under the Contagious Diseases (Animals) Acts, and that veterinary surgeons are only to be called in special cases. The notice states that this is the first county in Scotland to have adopted this plan, but I greatly fear that the example of the Perthshire authorities will prove as contagious among other local authorities as any of the diseases they are called upon to suppress. This action may seem an advantage from a ratepayer's point of view; but one fails to see how a constable, uninitiated in matters relating to diseases in animals, can carry out the law as efficiently as a professional man; and, besides, the constables so appointed are saddled with a responsibility of which only those who have had something to do with the working of these Acts know the weight. When an inspector under these Acts receives information in any manner whatsoever of the existence of disease, or supposed existence of disease, or has reasonable ground to suspect the existence of disease, he must proceed at once to the place where the disease exists, or is suspected to exist, and must there and elsewhere put in force and discharge the powers and duties conferred and imposed on him as inspector by the Contagious Diseases (Animals) Acts, and any Order of Council, and any Order of the Board of Agriculture. Now, this may seem simple enough to

an outsider; but when it is stated that since the passing of the Act some 5,000 Orders have been issued by Her Majesty's Privy Council and the Board of Agriculture, all of which deal with the duties of an inspector in some way or other, the simplicity disappears at once. The Acts themselves, and these Orders, which are continually being revoked or amended by new Orders, together with regulations issued by local authorities, are of the most intricate character, and are so linked and warped through each other that it is almost impossible to read them aright. My purpose in writing is not to find fault with these Acts or the Orders relating thereto, but to question the power of local authorities under these Acts to appoint a constable an inspector under these Acts without even saying "by your leave," and in all probability without either fee or reward. The Acts give certain powers to and impose certain duties on the police, but give no power to appoint the police as inspectors to local authorities. I submit that local authorities appointed under these Acts are not the police authorities in any county, and have no power to compel constables to act as inspectors under these Acts. The carrying out of these duties of an inspector to the local authority is, I maintain, not police duty; and where the hardship lies is that, should a constable so appointed make a mistake in carrying out the intricate orders referred to, he would be dealt with by his chief-constable for neglect of duty, and punished by fine, reduction in rank, or dismissal. It may be thought that this is an imaginary picture of what might occur; but such is not the case. It is a serious matter, and one which may affect constables of all grades, and which they would do well to look to. The police have many responsibilities already, and it is unfair to load them with others which should not be theirs.

Parochial Boards have as much right to call on the police to carry out the provisions of the Poor law, or County Councils to use them as road surveyors, as local authorities have to appoint them to carry out the details of the contagious Diseases (Animals) Acts.—I am, &c.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A MEETING of the Council of the Royal College of Veterinary Surgeons was held on Wednesday, 28th November last, at 10, Red Lion Square, Bloomsbury, London. Present:—Mr. William Hunting, President, in the Chair; Professors Edgar, McFadyean, Williams and Shave; General Sir Frederick Fitzwygram; Messrs. Dollar, Elphick, Faulkner, Hartley, Kidd, Lawson, Mason, Mulvey, Simpson, Trigger, Wheatley, Wragg; and Mr. Robinson (Assistant Secretary).

The ASSISTANT SECRETARY read the notice convening the meeting.

Professor MCFADYEAN called attention to the omission from the agenda paper of a resolution regarding the holding of examinations which he had given formal notice of his intention to move at the Council meeting in July last.

The PRESIDENT said he thought the omission was due, on the last occasion, to the fact that the Bye-Laws Committee had embodied a somewhat similar resolution in the Bye-laws which would be discussed in January. Probably the omission on this occasion was owing to the illness of the Secretary.

Professor MCFADYEAN thought it an extraordinary thing that a Committee should take upon itself to suppress a notice of motion because they thought they were bringing on something similar.

The PRESIDENT said he did not say the Committee had suppressed it. He

thought the Secretary laboured under the mistake that it was embodied in the motion with regard to the new Bye-Laws, and therefore had not put the motion on the agenda paper. He would take care that it was put on the agenda for the January meeting.

Minutes.

The ASSISTANT-SECRETARY read the minutes of the last quarterly meeting.

At the request of Mr. J. F. Simpson, the ASSISTANT-SECRETARY read the minute referring to the Farriers' Company again.

Mr. J. F. SIMPSON objected to the minute. He thought the proposition of Mr. WRAGG had been negatived.

Professor MCFADYEAN thought the minute was correctly recorded.

Professor WILLIAMS said he would be glad to give any explanation required in reference to the minute with regard to the letter from Professor McCall, relating to the certificate about the Sydney University.

On the motion of Mr. MASON, seconded by Mr. MULVEY, the minutes of the last quarterly meeting were confirmed.

Correspondence.

The PRESIDENT read a letter from the Medical Defence Union, drawing the attention of the Council to the fact that a Fellow of the College was using his qualification as if it were a qualification to practise as an ordinary surgeon.

On the motion of Mr. J. F. SIMPSON, the matter was referred to the Registration Committee; and at the suggestion of the PRESIDENT, it was agreed that a letter should be sent to the secretary of the Medical Defence Union, informing him of what had been done.

On the motion of the PRESIDENT, a letter with regard to Mr. Coulson was also referred to the Registration Committee.

Steel Committee's Report.

The PRESIDENT stated that the Committee had not yet been enabled to report, and the matter would have to stand over.

Registration Committee.

The PRESIDENT said that there were no prosecutions requiring the seal of the College.

Election of Member of Farriers' Registration Committee.

Mr. WRAGG moved, "That Mr. Trigger be elected in Mr. Dollar's place as a member of the Farriers' Registration Committee."

Mr. SIMPSON seconded the motion.

Mr. TRIGGER thought that someone living nearer London ought to serve on the Committee. Mr. Simpson would be a better man to act.

Mr. SIMPSON said he would rather not serve on the Committee.

Professor EDGAR moved as an amendment, "That the appointment be not refilled."

Professor SHAVE seconded the amendment.

Mr. J. A. W. DOLLAR asked if he would be in order in making a few remarks on the subject, in support of the amendment?

The PRESIDENT: Certainly.

Mr. J. A. W. DOLLAR said he wished to review the action of the Registration Committee. The Registration Committee started in 1890 with the object of instructing, examining, and assisting in apprenticing farriers. Since that time it had registered some 4,000 men, out of whom it had practically examined 216, and 3,749 were passed on what the President declared to be a fraudulent examination.

The PRESIDENT objected to such a statement.

Mr. DOLLAR said the President had described the examination as a fraud on the public.

The PRESIDENT said the 3,000 men were not passed by examination.

Mr. DOLLAR said he was referring to persons who were not passed by examinations.

The PRESIDENT said that if they were not passed by an examination there could not have been a fraudulent examination.

Mr. DOLLAR said there was a pretence of examination.

The PRESIDENT said there was no pretence. They were not registered by examination at all.

Mr. DOLLAR said the examination to which the President had referred as being a fraud on the public was that conducted by Dr. Fleming, in which the men were examined for five minutes in a little underground office at Lawrence Pountney Hill, and after a few questions, occupying not more than five minutes, received their certificate, and were sent forth to the world as registered shoeing smiths.

The PRESIDENT said he did not object to that statement, but he objected to the assertion that 3,000 men were examined in that way. Those figures included those who were admitted without examination mostly on veterinary surgeons' testimonials.

Professor WILLIAMS asked if it was fair to make a charge against Dr. Fleming when he was not present to defend himself.

Mr. DOLLAR said the charge had been already made public, and Dr. Fleming had, unfortunately, not been able to meet it or say anything in deprecation of the charge. If Dr. Fleming, when the VETERINARY JOURNAL was still in his hands, had wished to defend himself he had every opportunity. The fact remained undisturbed that 3,749 men had been registered, either with no pretence of examination or after a fraudulent examination. That in itself should make the Council pause before continuing its support. But when the recent developments of the scheme come to be considered he did not think they justified the Council's continued support. Its present examinations consisted apparently of registering men who had been examined by agricultural societies, and the examination conducted by the Farriers' Company itself was one only in name.

Mr. TRIGGER said the agenda paper did not give an option of considering whether they should elect or not. Unless Mr. Dollar's remarks were against some particular individual he thought Mr. Dollar was out of order.

Mr. DOLLAR said the outcome of that position would be that they would be unjustified in moving any amendment.

Mr. TRIGGER said Mr. Dollar might object to an individual member of Council, but there was no power to do anything at that meeting except to proceed to election upon the agenda paper.

Mr. DOLLAR thought there was a middle course, viz., to refrain from doing anything, and he was speaking in support of that policy. Within the last two years there had been numerous and acute complaints from a large number of country members of the injury which had been done to them by registered shoeing smiths using their title and the letters "R.S.S." Those complaints could not be very much longer ignored. Another argument in support of the policy of not re-electing a member, was the fact that at the present time the Registration Committee was almost insolvent, and that there were grave signs of the Royal Agricultural Society seceding from it.

The PRESIDENT said that within the last six weeks the Royal Agricultural Society had approved of the work done by the Farriers' Company. He had seen the Annual Report of the Farriers' Registration Committee and one thing it said was, ". . . . thus showing that throughout the year 149 smiths have been examined, and 115 passed."

Mr. DOLLAR said they had been examined by agricultural societies in their forges, by their examiners, and had been registered by the company.

Professor PENBERTHY said the matter was regarded by the profession as important, and he did not think it should be voted upon until Mr. Dollar, or any other gentleman, spoke. He proposed that Mr. Wheatley should be elected a member.

Mr. DOLLAR pointed out, in confirmation of his statement, that the Farriers' Company now had only £14 5s. 6d. at their bankers.

The PRESIDENT stated that it was not necessary that the member elected should be a member of Council. Any member of the profession was eligible. If anyone wished to bring, as a clear issue before the Council, that they should cease their connection with the Registration Committee, the proper thing was to put it down on the agenda paper, and give proper formal notice to the secretary.

Mr. SIMPSON proposed that Mr. Fraser be elected.

Mr. LAWSON seconded the proposition.

Mr. FRASER said he would be pleased to undertake the work, as he thought it would be a pity for the Council to lose the influence they had on the Farriers' Registration Committee. He thought the veterinary aspect should be represented there as strongly as possible.

The motion for the election of Mr. Fraser was carried, 10 voting for, and four against.

Examination Models and Instruments.

The PRESIDENT said the Council had decided that some models and instruments should be bought, and had written to the examiners for suggestions.

Mr. MULVEY moved—"That the question of the purchase of models and instruments be referred to the Examination Committee."

Mr. TRIGGER seconded the motion.

Mr. SIMPSON said he was in favour of providing a liberal number of models and instruments, but he thought the Council should limit the amount to be expended.

Professor MCFADYEAN thought a limited sum would suffice. He was in favour of fresh preparations in preference to models.

At the suggestion of Mr. WRAGG, Mr. MULVEY agreed to add the words, "at an expenditure not exceeding £100.

The amended motion, "That the question of examination models and instruments, be left to the Examination Committee to choose and purchase them, at an expenditure not exceeding £100," was agreed to.

Election of Examiners.

Mr. MULVEY moved, "That the election of examiners be referred to the Examination Committee, who shall report to the next meeting of Council."

Mr. TRIGGER seconded the motion, and, after some discussion, it was carried, 12 voting for, and three against.

Four Years' Course of Examination.

On the motion of Mr. MASON, seconded by Professor PENBERTHY, it was resolved, "That the provision for the introduction of a four years' course of examination be referred to the Examinations Committee to report to the Council at the next meeting."

Revision of Register.

The PRESIDENT said the Register would have to be out somewhere about February, and the Council would like it out as soon as possible after the Council met to settle the Bye-Laws.

On the motion of Mr. MASON, seconded by Mr. MULVEY, the matter was referred to the Publication Committee.

Motion by Professor W. O. Williams.

Professor WILLIAMS said he supposed the dates of the next examinations were already fixed, and the motion of his son's now fell to the ground. It was intended to come up at the January meeting, and he would like to know why a meeting had been called in November.

The PRESIDENT stated that the reason for holding the meeting was because it would have been impossible to get through all the work which would come up at the January meeting, and also because there were one or two things requiring immediate attention. After what Professor Williams had said, the notice of motion standing in the name of Professor W. O. Williams, "That at this meeting the dates of the next examinations be fixed," would not be proceeded with.

Other Business.

Professor MCFADYEAN said he wished to bring before the Council a question as to the place where the students should pay their fees. The most convenient arrangement was that the fees should be paid at the College. The rooms would be put at the disposal of the Secretary and his assistant, and the students could come up in an orderly manner and pay their fees. He would like the Council to direct that the thing should be done in that way. It was the invariable practice in Scotland for the Secretary to attend at the College and collect the fees.

Mr. MULVEY said it had been the custom for the last three or four years for the fees to be paid at the College.

Professor MCFADYEAN said with some exceptions, and the last time was an exception.

Professor WILLIAMS moved, "That the Secretary of the R.C.V.S. shall attend at the Royal Veterinary College, Camden Town, to collect the students' fees, at dates to be agreed upon between the Principal and the Secretary until further notice."

Mr. SIMPSON seconded the motion.

Mr. TRIGGER moved as an amendment, "That the Secretary be instructed to attend at Camden Town to collect the students' fees on this occasion at the Christmas examinations."

Mr. MASON seconded the amendment.

After a lengthy discussion the amendment was put and lost, five voting for and 10 against.

Professor WILLIAMS' motion was then put and carried, 12 voting for, and four against.

Mr. TRIGGER (with the President's permission) presented the Report of the Jubilee Memorial Committee, and moved, "That the Report of the Jubilee Committee be received and adopted."

Mr. MASON seconded the motion, which was agreed to.

In answer to Mr. Hartley,

The PRESIDENT said that the matter of Mr. Coulson would be brought up at the next quarterly meeting.

Mr. SIMPSON, as President of the Registration Committee stated that the Committee had investigated a large number of cases, and proposed to make their Report at the January meeting of the Council.

A vote of thanks to the President terminated the meeting.

THE Jubilee Memorial Committee, composed of the President and members of the Royal College of Veterinary Surgeons and influential representatives of the profession generally, met at the College Building, Red Lion Square,

when it was decided (1) that the memorial should take the form of a scholarship or bursary to perpetuate or recognise the services of Messrs. Goodwin, Mayer, Dick, Sewell, Spooner, and Simons, who obtained the first charter for the Royal College of Veterinary Surgeons in 1844; (2) that a memorial tablet bearing those names be placed within the College building; (3) that the bursary or scholarship be applied as recommended by this committee, subject to confirmation by the Council of the College; (4) that to carry out the above-named objects an appeal for donations be made to the profession generally, and to the various medical societies. A subscription list was opened, headed by a donation of £50 from the Council of the College, and a like contribution from the Midland Counties Medical Veterinary Society. It was proposed that individual contributions should be limited, but this was negatived, and it was resolved to fix no limit, leaving the members of the profession free to give according to their means and inclinations.

Examinations.

THE Written Examination in the various classes was held on December 10th, in London, at the Examination Hall of the Royal College of Physicians and Surgeons, Victoria Embankment, and the Oral Examination at a meeting of the Court of Examiners held at 10, Red Lion Square, on and between December 11th and 13th, 1894, and the Practical portion of the Final Examination at the Royal Veterinary College, Camden Town, on and between December 12th and 14th, 1894.

The following students passed their Final Examination :—

Mr. C. Hoole
„ W. J. Foreman
„ A. H. Towne
„ H. L. Roberts
„ H. Walpole
„ W. James
„ J. E. Parrett
„ C. A. A. Ewin
„ F. F. G. White
„ H. Bowker
„ J. W. Baxter
„ A. H. Clapp
„ T. G. Frost
Mr. S. Pennington
„ H. Reynolds
„ A. P. Calastreme
„ B. Franklin
* „ G. W. Freen
„ T. K. Henton
* „ T. E. Jones
„ E. M. Jarvis
„ H. E. T. Mason
„ F. C. Robertson
„ H. Sturge
„ F. Thornton
„ W. A. Wood

The following students passed their Second examination :—

*Mr. J. H. Burnett
„ F. W. Cox
* „ A. J. Curtis
* „ G. Conder
„ W. Dennington
„ H. B. Eve
„ R. Gilbey
* „ T. S. Grove
† „ W. C. Gillam
* „ A. H. Grimes
„ J. P. Heath
† „ T. B. Hodgkinson
* „ J. Hughes
„ R. J. Houston
†Mr. W. J. Heley
† „ R. Hudson
„ O. Johnson
„ S. W. Jones
„ W. Mulvey
„ R. C. Mathews
„ J. S. Pike
† „ C. Peirce
* „ Platt
„ S. W. Pratt
„ J. Pugh
† „ B. Sumner
* „ E. Stanley
* „ R. D. Thomas

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

Second Examination—*continued.*

†Mr. G. Watkins
† „ C. E. Wells
† „ J. L. Webb
*Mr. H. H. Worrow
* „ W. Wordley
* „ H. W. Youngs

The following students passed their First Examination :—

Mr. W. H. Anderson
„ R. Brennand
* „ R. W. Carless
* „ T. Elliott
„ E. T. Ensor
„ E. Fenner
„ E. T. Goodall
* „ H. Hobbs
Mr. A. S. Head
„ A. T. Hine
„ A. Hudson
„ G. P. Knott
„ J. W. Oakley
* „ C. M. Park
„ J. B. Walker
* „ W. M. Williams
„ B. Youngs

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

ARTHUR W. HILL,
Secretary to the Board of Examiners.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A MEETING of the Scottish Metropolitan Veterinary Medical Society was held on the 21st November in the London Hotel, St. Andrew Square, Edinburgh. Mr. Harry Thomson, M.R.C.V.S., Aspatria, through the indisposition of the President, Professor W. O. Williams, occupied the chair, and the following gentlemen were present:—Principal Williams, Principal McCall, Professors McDougall, James Hunter, F.R.S.E., Ivison Macadam and O. C. Bradley; Messrs. H. Thompson, M.R.C.V.S., Aspatria; R. Rutherford, F.R.C.V.S., Edinburgh; P. Moir, M.R.C.V.S., Edinburgh; A. F. Durkie, M.R.C.V.S., Dundee; J. McLauchlan Young, M.R.C.V.S., Dundee; W. Anderson, F.R.C.V.S., Glasgow; J. Hutton, F.R.C.V.S., Kelso; G. Frew, M.R.C.V.S., Glasgow; Secretary, West of Scotland Veterinary Medical Society; Veterinary-Captain Moore, Piershill Barracks; D. Young, Editor, *North British Agriculturist*, etc.

The first business was the election of office bearers. Mr. PETER MOIR, Honorary Secretary, stated that he had written to two or three of the older members of the Society asking them to accept of the Presidency, but he regretted that most of them were unable to do so from various reasons. He nominated Mr. John Cameron, M.R.C.V.S., Berwick-on-Tweed, as President for next year. Mr. R. RUTHERFORD, F.R.C.V.S., Edinburgh, seconded the nomination, which was cordially agreed to.

Professor W. O. Williams and Messrs. Young and Durkie, Dundee, were elected Vice-Presidents. Mr. Peter Moir was re-elected Secretary and Treasurer, his nomination having been proposed in eulogistic terms by Principal WILLIAMS.

Mr. MOIR nominated the following gentlemen for membership of the Society :—Mr. Wm. R. Davies, M.R.C.V.S., and Mr. Walter Gray, M.R.C.V.S., Leith, the latter being a graduate of Clyde Street College and the first of the younger members from that school, whose example, he hoped, would be soon followed by others.

Anthrax.

The next subject on the billet was "Discussion on paper on Anthrax, by Mr. Harry Thomson, read at last meeting."

Principal WILLIAMS said that anthrax was a rather well-worn subject, and

in view of important papers on quite a fresh subject to be submitted that afternoon, he proposed that the discussion on anthrax should be deferred till next annual meeting.

This was agreed to.

Professor McDougall then read his paper on the *Lathyrus sativus.*

Professor Ivison Macadam, F.R.S.E., then gave a chemical report on *Lathyrus sativus.* His analysis of the Indian variety was as follows :—Water, 14·28; oil, 2·88; albuminoid, 21·62; carbohydrates, 53·12; cellulose, 5·26; and ash, 2·84. It would be noticed that while he gave 2·88 for oil, Church only gave 0·9, so that his proportions varied a little from the others. The ash constituents seemed to be very similar to those of other allied substances, and there was no great difference to be found. There was one serious point in the analysis, and that was that it did not show anything which would lead one to suspect a poisonous material. The analysis was a perfectly well-balanced one, and, if sent to a chemist in the ordinary way, would be passed as a good feeding stuff. There was nothing to indicate that there was anything irregular, and it might be passed as a fairly good feeding material, unless, of course, it were noticed carefully under the microscope, when they might get some indication of the poison. There was no doubt that in mixed feeding cakes they had had cases of damage, which they could not ascribe to any particular poison in our present knowledge. The ordinary chemical analysis showed nothing to indicate anything particularly wrong. He was not yet clear as to the poisonous substance, because it was rather a serious matter to indicate plainly at first, until they had considerable experience. They had several instances now, in which they had isolated a white crystallised substance, which was nitrogenous, and which appeared also to be alkaloidal, but he would not like to say that that was the cause of the poison. At the same time, there was a certain change which took place when they allowed the peas to ferment. They would require to take the botanical characters as the first stage in showing the presence of poison.

Principal McCall then gave a clinical report on the nature of *Lathyrus sativus.* He felt that he had nothing to say, as Professor McDougall had dealt to a considerable extent with the clinical aspect. He thought the point of greatest importance was to be able to detect the poison in the early stage, before many deaths had occurred. He thought there was no great difficulty, if once they had a little experience in the matter. There were no premonitory symptoms. An animal was suddenly seized with a difficulty in breathing, and fell dead. In some cases the driver had become conscious that the animal was affected, as it made a noise with its breathing, and sooner or later it became so loud and urgent that the animal came to a standstill. The worst roarer was not to be compared to an animal labouring under this disease. The animal also stretched out its neck, and its tongue became quite blue in colour, and there was a heaving at the flank. The premonitory symptoms were just sudden difficulty in breathing, as if they had thrown a rope round the animal's neck and tightened it. In other cases, the horse got weak in its limbs. Excitement had a most wonderful effect in horses. At Bristol, one of the horses had been in the habit of being always fed first. One day, the men did not feed him first, but fed his neighbours on each side. The horse got into such a state of excitement at this, that he commenced to breathe hard, and, after knocking himself about for a few moments, he fell down. They sent for a veterinary surgeon, but it was twenty minutes before he came. The horse was then lying as if dead, but still breathing. It afterwards got better, and this was simply excitement, brought on by a paroxysm due to the difficulty in breathing. The Principal then quoted from a lecture delivered by himself on the poisoning of horses, which appeared in the *Veterinarian* of November, 1886, and in which he described an outbreak that

occurred that year in Falkirk. He specially emphasised the point that there was no fever in connection with this disease. From what he had seen, he was clearly of opinion that cooking destroyed the poison. As an experiment, he had steeped the peas in a pot and given them to the horses in small quantities, and there were no bad effects. Then he had experimented with vetches on sheep and cattle, and they had no bad effect, and he knew as a fact that there were thousands of bushels being used every day as bone meal. He had not the slightest doubt the reason why they were apparently so safe was that the dairyman, when he used bone meal or peas meal, invariably scalded them well, because he knew they would bring on indigestion and kill his cows. He was of the decided opinion that, whatever the poison, it was cumulative, and he also entertained the opinion that its power would be destroyed by adulteration or cooking. At the Bristol trial, all the witnesses admitted that the peas had not been used in the raw state, but had been ground up, and found their way into cakes.

Principal WILLIAMS gave a short description of the symptoms displayed by horses which had come under his observation in Liverpool, and said the symptoms differed from those described by Professor McCall in so far that there was a distinct engorgement of the throat. He saw the horse just after it had died; in fact, the carcase was quite warm, and the skin was being removed as he entered the horse-slaughterer's yard. There was great engorgement around the throat, which, on the skin being removed, was seen to consist of very dark-coloured blood, surrounding and invading the larynx. This extravasate also contained large coagula of sulphur-coloured lymph, such as described in the Ludiana disease seen in India, and identical with what he had seen in undoubted anthrax in the horse in this country. He prepared some slides, for microscopic examination, on the spot, and found the blood and exudate teeming with bacilli, similar, but rather smaller, than the *Bacillus anthracis*. He found the *Lathyrus* was of the dark and smaller kind, and very dirty, containing, amongst other filth, the excreta of some rodent, and, on cultivating this dust, a bacillus was developed identical with that seen in the blood, but he failed to cultivate the organism from the meal after the grain had been washed. Principal Williams was, therefore, of opinion that the organism was in the dirt only, and that the disease arose from entrance of this organism into the animal economy. He had now reason to think that in the Liverpool outbreak there had been a combination of causes, viz., the *Lathyrus* poison, whatever that may be, and the bacilli. The white kind of *Lathyrus* had only been known to him for a short time, and he had received a sample, a day or two ago, from Newcastle, of the white kind, mixed with ordinary peas, perfectly free from dirt, but the horses that were fed upon it were becoming roarers. One thing he had noticed in Liverpool was that there was great congestion of the lungs, and that the blood generally had that dark appearance which was characteristic of anthrax disease. The matter required a good deal more investigation. If it was an alkaloid it was difficult to understand how heating would destroy it.

Captain MOORE, A.V.D., said that as he had been to the East he would be supposed to know something of this disease, but he was sorry he could throw no light on the subject. When in Africa their horses were fed on oat straw, and they also gave them Indian corn. They had trouble with the Indian corn but none with the oat straw. When in Afghanistan they fed their horses on barley. In Candahar they had to give the horses wheaten straw, trodden very fine by bullocks. They had any amount of trouble with the Indian corn in India, and also with the barley in Afghanistan. When grain was ordered or sanctioned by the Government they were obliged to feed their horses on that particular grain, and if there was any mixture it would be rejected. Consequently he had no experience of *Lathyrus sativus*. The only thing

approaching the symptoms described was wind-stroke in India. It was a sort of paralysis, but they did not know how it occurred. It was supposed to be caused by a chill in the night, or perhaps at three o'clock in the morning, the coldest part of the day. It struck him that if the *Lathyrus sativus* seeds were steeped, and then given to the horses in small quantities, they might become a valuable food.

Principal McCall again briefly spoke for the purpose of pointing out the value of tracheotomy in connection with this disease. He said that tracheotomy not only saved the life of the animal, but actually led to the elimination of the poison from the animal quicker than if the animal had been at rest.

Principal Williams: Could they work without the tube afterwards?

Principal McCall: Oh, yes. That is one of the points I am particularly anxious about—that tracheotomy not only saves the animal's life, but puts him back to his work immediately.

Principal Williams: I am sorry some of the Newcastle people are not here to-day. They said the horses still died in Newcastle after the operation had been performed.

Principal McCall: They did not do so with me.

Mr. Peter Moir, honorary secretary, speaking from practical experience in India, said it struck him very forcibly that the cases witnessed by Principal Williams in Liverpool were identical in their appearances with the Ludiana disease he had seen in India. The effusion about the trachea was often so great that he found it impossible to perform tracheotomy. The serous effusion was of a bright yellow appearance, and was solid, like a jelly, and the blood was very dark in colour. There were cases of recovery, but they were very few. He thought if a cure could be found, it would be of great service to the profession in India, who had not yet traced the real cause of the disease.

Mr. R. Rutherford, F.R.C.V.S., said that two things stood out prominently in connection with this matter. The first was that the dog-tooth pea and the *Lathyrus sativus* belonged to the same class. It was also clear that both were poisonous, and produced certain effects which were fatal when used in large doses. It was news to him that there were recorded cases of this *Lathyrus sativus* being used largely in India in time of famine, and that it had been fatal among men. During his residence in India he had no information, and they passed through two famines of great severity in Bengal during that time. He had no knowledge of its being poisonous, because he never saw a case in India during the whole eleven years he was there. Perhaps the explanation was that they did not allow it to be used in large quantities. Another very good reason was that they purchased their grains from different merchants, and purchased them almost every other day. Why did he recommend his clients in this country not to use it raw? Simply because it was an Indian grain, and liable to be contaminated with one of the most dangerous Indian diseases. Anyone who had been in India knew the mode of threshing grain and storing it into places, the floors of which had not been cleaned for generations. He knew how easily it was, in a country swarming with disease, for the grain to be contaminated. They, fortunately, escaped having a single case in Edinburgh, because they boiled the grain, and this corroborated what Principal McCall had said. He looked upon the Ludiana disease as nothing but anthrax, and hearing Principal McCall's lucid description of the disease, he could not imagine, from his knowledge of clinical medicine, that the mere performance of tracheotomy would save a large number of animals' lives, whose systems were saturated with anthrax poison. He thought it was more likely, as had been pointed out, that the poison was an alkaloid, and in this case, the anthrax resembling Ludiana

disease was an accidental circumstance. He thought that if *Lathyrus sativus* was the cause of Ludiana disease, they would be able distinctly to connect the two together in India, not once, but many times.

Mr. DURKIE, Dundee, said that as a veterinary surgeon, as an agriculturist, as a miller, and as a grain merchant, he was delighted with what he had heard that day. In the last-named capacity he had been instrumental in keeping the pea out of the market in Dundee, where not a single case of poisoning had been heard of. He had great pleasure in moving a vote of thanks to Professor McDougall.

The CHAIRMAN said he knew nothing about these peas, but he was delighted with all he had heard. He thought the best thing they could do was to stick to the home produce. He had great pleasure in seconding the vote of thanks, and he hoped Professor McDougall's paper would lead to some benefit.

British Institute of Preventive Medicine.

A letter from the Royal College of Veterinary Surgeons on the subject of a grant of money to the British Institute of Preventive Medicine was allowed to lie on the table, as it was pointed out by the Honorary Secretary that the Society was not in a position to give any grant to this very desirable scheme.

Feeding Horses from Nose-Bags.

Mr. RUTHERFORD drew attention to a correspondence in an evening newspaper, the writers of which declared it was cruel to feed horses out of nose-bags. He said a lot of sentimental rubbish was being written on the matter. It was said that feeding by this means produced suffocation, and partial suffocation, and the animals led a most distressful life. His own idea was that the animals would lead a much more distressful life if it were not for the nose-bags.

These sentiments were endorsed by Principal WILLIAMS, Principal MCCALL, and Captain MOORE.

A vote of thanks to the Chairman terminated the proceedings.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

AT the meeting at Leeds, on October 26th, Professor PENBERTHY read the following paper on

"ANTHRAX."

It was in connection with this affection that the microbe character of the cause of such conditions was first demonstrated, and, perhaps, of no other disease of our patients do we possess more positive knowledge than of anthrax. The light thrown on its intimate nature by scientific discovery affords one of the most brilliant examples of the benefits of experimental research to practical medicine, yet the work of each succeeding year seems to elucidate some fresh aspect, and suggest the appropriation of some practical measure.

In 1849, Pollender discovered the bacillus anthracis in the blood. In 1850, Davaine found the organism, and, in 1863, proved to general satisfaction that it stood in relation to anthrax or charbon as cause to effect. The work, based on the line of thought suggested by these discoveries, has been stupendous; a new era in pathology has been established, and though at the present moment medicine is in a state incident on revolution, the study of contagious disease is simplified, disease itself, especially as regards prevention, more under our control, and, gauged by the advances of the past 30 years, there is ample room for hopeful work in the future. New discovery and its relation to the health of man have given much prominence to the disease in question,

and it has come to be considered by some a new disease. The history of anthrax, however, appears coincident with the earliest mention of animal diseases. Descriptions to be found in ancient records have little room for doubt as to its existence in the East in very early times. Many writers on this aspect of the subject are quite convinced that Moses has a claim to precedence as to mention of its contagious nature in Egypt, while, in *The Record* of the current year, we may read of claims for priority in Great Britain, which extended no further back than the year of grace 1873. It may be difficult to determine the position among the events of the past five or six thousand years which will be relegated to the respective chroniclers. The history of any contagious malady, which, like anthrax, appears to have an abiding influence in a definite area, is, I think, invested with a certain degree of importance, and cannot be disregarded. There has been, I believe, a disposition to regard anthrax as something new to Great Britain, and from its apparent prevalence to-day, to draw the inference that it must be introduced from abroad. This naturally and rightly causes the expenditure of some of our energies in preventing its introduction from foreign countries. It is essential that we should not allow this to overshadow and minimise dangers which lie within our borders.

When we read that the contagiousness of such a disease was demonstrated in this country first, say 20 years ago, one inference is that the fact was not known before. There seems a tendency in the present day to believe that a demonstration of contagiousness, or the converse, demands the experimental transference of the virus, and I fear this idea has done something towards obscuring the value of clinical research, and diminishing the record of clinical observation. To me, however, it seems impossible to read the older records, say the *Veterinarian* of 50 years ago, and the professional publications of to-day, without being struck with the usefulness of what is found in the former. I am fain to think we shall find that from an educational point of view, or as evidence of careful and correct observation, the older compare favourably with the more recent.

In the Jubilee year it may not be unappropriate here to refer for informa- as to the disease now under consideration to the *Veterinarian* for 1844. On page 116 we find a chapter headed "Carbuncle, Malignant Pastule," by Dr. Muller, a surgeon of Homburg, who says: "For 22 years I have been practising in a district, where anthrax arising from the carbuncle in cattle, is of such frequent occurrence that the number of cases which I have treated exceeds 100. In the majority of my cases I have been able to trace the operation of direct infection, usually from the hands of the peasants, and from the contact of the blood of the diseased cattle during the process of skinning them, and in others from the pricks of gnats and other insects that had previously been settling on the dead carcases. Only once from a horse. On no occasion did it ever seem to be produced by the merely eating of the flesh of the diseased cattle."

In the same volume on page 532 there is an account of a singular mortality among cattle by Mr. J. Howell, V.S., of Wickwar, near Wootton-under-Edge. This gentleman describes how he visited a farmhouse, for the purpose of examining a dead cow with two neighbouring practitioners. The cow was supposed to have died of poison, two having died previously and five more being then ill. Mr. Howell then gives symptoms which are characteristic, and settles the matter for us by his account of the *post-mortem*: "On laying open the cavity of the abdomen, we observed a slight redness of the peritoneum and omentum: upon removing the intestines a quantity of bloody fluid was perceived in the cavity of the belly, of a very dark colour. The stomachs were perfectly healthy, as was also the liver. *The only abnormal appearance was an enlargement of the spleen which was four times its natural size, softened,*

and containing a quantity of very thick and dark-coloured blood." Then follows another set of cases on an adjoining farm, where eight out of 14 cases had died suddenly within a very short space of time.

I have not quoted this as being the earliest evidence of the existence of anthrax in Great Britain. Up to this date and for some years succeeding it, the diseases of cattle had received very little enlightened attention. Practice amongst them was to a great extent engaged in by the most ignorant, and matters concerning them were in the early part of this century more obscure that we can even imagine now. Yet, if our profession were ignorant of the existence of such a malady as anthrax it was due to neglect of opportunities, for prior to the establishment of a veterinary school in Great Britain a good description of the disease was current in English literature.

The following I have extracted from "A Treatise on Cattle," with a direction for the proper treatment of them in their several disorders. To which is added a dissertation on their contagious diseases by John Mills, Esq., F.R.S., &c., &c., 1776." Describing a disease which was extremely prevalent in two parishes at the end of June, he says: "Cattle, sheep, swine, horses and even numbers of dogs which had eaten the flesh of diseased cattle, have died of this disease. The first symptom observed is in their abstaining from food. I do not mean to say no other symptoms precede this, but the keepers of the herds, little experienced in and as little attentive to, such objects do not distinguish them. The creatures are observed to be melancholy, to hang their heads, to have cold and drooping ears, rough hair without its usual lustre, loins feeble and beating, the whole body weakened, and seeming to be disposed to make efforts to urine. The chewing of the cud ceases. In a few hours after, they are seized with a shivering, their eyes become dull and watery, a tough snivel issues from the mouth and nose, they lie down and die quietly, or are more or less convulsed. In this extremity they stretch their heads out frequently, pant for breath, fetch long sighs, and sometimes, too, they cough. These symptoms often come on so rapidly that the creatures die before they have been seen; many bullocks have dropped down dead under the yoke. A violent shivering is always fatal. It sometimes happens that tumours appear on the surface of the body. These tumours are flabby, yield only a thick reddish sanies. If a suppuration comes on all does well. The tumours which show themselves on the breast of a horse are the most dangerous and certain, those that are found in that part corresponding to the dewlap in a bullock, the creature whilst dying or when dead bleeds at the mouth or nose, or fundament, and sometimes at all three together. Most of the drenches hitherto given have seemed to hasten death. This epidemic disease has so great a resemblance with what we call in man a putrid, malignant, purple and pestilential fever that I do not scruple to give it these names in other animals. So much is it of the same stamp, that I met with three men in the country on whom the anthrax appeared.

"The cattle never appeared fatter than they are this year (1763), and the disease has seemed chiefly to attack the finest and plumpest. At *post-mortem*, no external mark; blood not coagulated, but in a dissolved state; lungs, tongue, mouth, œsophagus, sound; abomasum, mucous membrance, peeled off; spleen, gangrenous spots. *Post-mortem* in a horse: Swelling of neck and breast; he stunk; the tumour in the neck appeared, under the skin, all macerated and drenched in a mucilaginous lymph; the flesh all around very moist and livid." The carcase of a sheep is thus described: "A swelling of the throat, as in a horse; the rest of the body was sound within and without; the intestines emptied; the spleen was swelled and stuffed with black blood." Five other sheep, "no swellings of neck and throat."

In 1836, Youatt, probably without an extensive practical experience, published his work on "Cattle, their Breeds, Management, and Diseases."

This we are bound to take, at least as a reflection of the knowledge then existent. At page 457, under diseases of the spleen in sheep, we find—"Inflammation of the spleen, and hœmorrhage from it, or exudation through its coats, is not an uncommon disease. In those that die of inflammatory fever, with which a high degree of intestinal inflammation is connected, or that perish in consequence of inflammation of the peritoneum, it is not unusual to find an effusion of a deep blood-coloured fluid in the abdomen. This has been almost uniformly attributed to one or the other of these diseases, in proportion as they have been observed to prevail; but the occasional seat of the disease, the spleen, and which is found most especially to have suffered, is too frequently overlooked. So it is in cattle. A beast in high condition, or placed in too luxuriant pasture, is suddenly taken ill; he staggers; his respiration becomes laborious; his mouth is covered with foam; he stands with his head stretched out, labouring for breath; he moans; blood escapes from the nostrils or the anus. The disease runs its course in a few hours, and the animal staggers and dies. On opening him, the vessels beneath the skin are gorged with blood; but the spleen is most of all affected and disorganised: it is augmented in size, softened, its peritoneal coat torn, and blood rushes or oozes, without any visible rupture.

"In such a malady, the skill of the practitioner can be of little avail. Had the peculiar determination of disease to the spleen been discovered, it could not have been arrested, and all that can be obtained is a lesson of wisdom—a caution to adopt a more equable and less forcing system of feeding, and the avoidance of all these causes of general inflammation in which the weakest organ suffers most, and by its disorganisation causes, or, at all events, hastens death."

It is curious how some of these views have kept their hold on professional and laymen to the present day, especially as to the high-feeding.

From a report in the *Veterinarian* for 1862, we find that the disease was then generally so far differentiated as to bear a name of its own, "Splenic Apoplexy." On page 515, Professor Simonds states that he "hesitated not to express his belief that it was a want of water which induced a diseased condition of the blood in this instance of extensive fatality, said to arise from splenic apoplexy." In the same article the professor speaks of dogs and pigs dying from eating the flesh of affected animals. Notwithstanding these observations, the contagious nature of some diseases had not at this time made a deep impression on the minds of English veterinary surgeons. Professor Simonds' report to the Royal Agricultural Society on some extensive outbreaks in this year, concludes: "I would express the hope that the causes of this fatal outbreak may yet be made evident by the co-operation of the chemist, the botanist, and the animal physiologist, so as to lead to the adoption of effectual preventive measures." Professor Buckman, the botanist, and Dr. Voelcker, the chemist, investigated the outbreaks of splenic apoplexy, in co-operation with Professor Simonds. The last-named certainly proved himself superior to his co-operators, for while, naturally, the botanist declares, in his summary, "the basis of the mischief is poor herbage," the chemist "did not feel the least surprised that animals supplied with such water (as he had analysed) had become the subjects of serious disease." The animal physiologist, however, manifests his honest doubt in his expression of hope as to what good the future might bring forth.

In the *Veterinarian* of 1864, under the head of "Splenic Apoplexy," there is a very long account, by Mr. Ernes, M.R.C.V.S., of the researches of Davaine. Here we find reference to the contagiousness of the disease, an enumeration of the species of animals susceptible, the fact that rats are not susceptible, a morphological description of the bacillus anthrasis, of its existence and development in the living animal before death, of the arrest of development in the

carcase after death, and its destruction by the putrefactive process; of the resisting power of spores, and many other matters concerning the disease, which were sufficient for much practical work, and which now stand well the test or scientific investigation.

It appears to us now very strange that the contagiousness of the disease should have made so little impression—that it should have been so long overlooked or disregarded. Armitage, editing Clater's "Cattle Doctor," in 1870. draws attention to the contagious nature of anthrax, to the dangers to dogs, pigs, etc., from eating flesh of affected animals, and to men from skinning carcases and dressing hides. From this date at least the fact seems to have been generally recognised.

I have purposely dwelt on this aspect of the subject in an endeavour to show that anthrax *is not a new disease.* I regard this as important, because unless we recoguise the fact that it has had an abiding existence here, we may possibly pay an exclusive regard to foreign sources and overlook dangers always at hand. I think we have, in the early records, ample evidence of the existence of anthrax in Great Britain. There can be no doubt that it is sometimes introduced from abroad. It is, however, very difficult to make any calculations as to its relative prevalence at given periods, but if we carefully compare the older English veterinary records with those of the present day I think we shall find it comparatively as much referred to in the former as in the latter. In attempting to form an opinion on this point it is necessary to remember the chaos as to diseases of cattle which prevailed forty or fifty years since, when the practice lay almost exclusively in the hands of the most ignorant farriers and quacks. When animals dying suddenly were said to be "struck" with this, that, or the other, and attracted no attention beyond that of the owner; when cattle diseases began to be written about, many of the rapidly fatal were jumbled together, animals died of inflammation, inflammatory fever, murrain, stroke of blood, mysterious poison, etc. There is little reason to suppose that any contagious diseases corresponding to these have become extinct, and we naturally ask ourselves where are the cases of inflammatory fever, inflammation, etc.? and on me at least, for reasons referred to, is forced the concluson that anthrax is responsible for some. Occasionally *post-mortem* examinations were made, and the condition of the spleen, etc., marked. In *Veterinarian* for 1843 there is recorded a "Horrible case of Splenitis"—a clear account of symptoms preceding a sudden death: size of spleen, pitch-like blood, and no other lesions except blood-stained serous membranes—as convincing as if the record were headed "A Case of Anthrax."

Now scientific discovery, followed by legal enactments, has directed special attention to a well differentiated disease. Doubtless, from want of knowledge, the victims of other diseases have been accredited to anthrax, and official returns mark an increase of cases. For instance, there would appear some reason for believing that last year many cases of "vegetable poisoning" were returned as anthrax, while by some "black quarter" is still regarded as anthrax, or "anthracoid"—a term it would, I think, be well to discontinue.

We have, however, now attained that point when all are agreed that the disease follows the entrance of the bacillus anthracis or its spores, and I propose now to direct your attention to some points of practical importance in connection with the microbe.

Professor Penberthy described the bacillus, its recognition, mode of growth, and emphasised the following points, that during life of its host probably only bacilli were formed in the body, that these were destroyed by putrefaction, that as the septic process advanced from the interior from the intestines, which always contained putrefactive organisms, and provided other conditions favourable to the process, the external parts of the carcase contained anthrax bacilli after the destruction of those which were in the internal parts, that

on gaining access to free oxygen spores were formed, which the putrefaction process did not destroy, but which lived for indefinite periods outside the body, and on regaining entrance to the system of the healthy animal, induced the disease. The unopened carcase which has thoroughly putrefied, then, is a source of little danger, while blood which has escaped before putrefaction is highly dangerous. Probably, however, if the blood is in very thin layers and desiccation immediately occurs, as must frequently be the case, the organisms are killed and it becomes inert.

In Great Britain the ox and sheep are most commonly the subjects of anthrax; next came the pig and horse, dog, cat. Ferrets, mice, rabbits, guinea-pigs, are easily affected, fowls seldom naturally contract the disease, and on account of their high temperature are said to enjoy a degree of immunity.

Amongst our patients, infection probably most frequently takes place by entrance of spores, and notwithstanding recent contrary statements there is evidence which goes to prove that both spores and bacilli may enter by invasion of lymphatics and unbroken mucous membranes, as well as through wounds and abrasions.

Man is also liable to attack; and this in Great Britain is most frequently from inoculation, when a local condition "Malignant Pustule" is established, or from the inhalation of spores inducing "Wool-Sorters' Disease," so called from the fact that workers in a certain part of the process of wool manufactures are most liable to it. All susceptible animals are liable to different forms of anthrax, determined to a great extent by the mode or place of entrance of the virus. When the virus enters through an external wound or abrasion and there is primary a local lesion the term local anthrax, malignant pustule, or carbuncle is applied to it. According to the seat of the local lesion, sometimes special names are given, *i.e.*, gloss-anthrax when the tongue is so affected; probably this is often a misnomer, and gloss-anthrax is really black quarter. The disease following ingestion of the virus is called *internal, intestinal anthrax* or often *splenic apoplexy*; that following inhalation of the spores *pulmonary anthrax*. The time which elapses from the entrance of the virus to the first appreciable symptom (elevation of temperature) in most of our patients varies from 24 to 60 hours; the average, I think, less than 40. The effect of the virus will to some extent depend on the number of spores and bacilli entering the blood stream at once, on the virulence of the virus, and the individual or class susceptibility of the subject.

The effect of the bacillus in the blood is to de-oxygenate it, to render it wholly or imperfectly uncoagulable, black, and tarry, the production of ptomaines, albumoses, etc. In the tissues it sets up an inflammation, whose product is of a peculiar citron-coloured gelatinous-looking material. In man at the seat of inoculation there is a necrosis, the dead tissue becoming black (hence the name anthrax) and inflammation and infiltration of the surrounding tissues. It is stated that in "malignant pustule" of man the lesion may exist for days without bacilli being demonstrable in the general blood stream. The effects of the disease on the animal may be attributed to alterations of the blood itself, to the special product of the bacillus, ptomaines, blocking of capillaries, and sometimes to swellings.

Anthrax must be regarded as a fatal disease, but I think it a great mistake to look on it as absolutely so. There are no means of exactly determining the proportion of deats of infected animals, but there is reason for supposing that this varies considerably. Sheep would appear to be nearly always mortally affected, though further observation is necessary before coming to a conclusion. I think it is not so fatal as black quarter. In the human subject, where surgical treatment is adopted, there is a large proportion of recoveries. In different outbreaks amongst cattle I have observed a considerable number

of favourable terminations; in several when the thermometer registered temperatures from 106 to 108·5 degs.

As a rule, the number of animals dying in an outbreak is not large, an average of about three being that observed in the Government statistics of this country. When large numbers are affected together the virus is probably brought to the animals in food as in a cart contaminated by a carcase, or by direct transference from the diseased. One instance came under my own observation when 32 animals succumbed, probably by bleeding first an affected animal, and then the rest of the herd.

The lesions of anthrax are varied in the different species of animal, probably depending on the habit and anatomical character of the species. In all animals dying of anthrax, however, certain characters are observable; there is early evidence of putrefaction, and the bacilli in the blood. In cattle and sheep usually a few hours after death there are evidences of putrefaction which commences and is most advanced in the abdominal viscera. We thus find the abdomen much distended, the anus protruded, and often blood is noticed escaping from it. Bloody spume is often seen about the nostrils and mouth, white parts are of a dark colour, indicating venous congestion. The blood is dark and tarry and shows little tendency to coagulate; if examined soon after death, it is found to contain anthrax bacilli and excess of white corpuscles. Internally the most marked and generally obtaining feature is the engorgement of the spleen, which frequently assumes an immense size. Sometimes in cattle its weight reaches 60 lbs. In extreme distension the pulp is broken down, occasionally its capsule is ruptured and the abdominal cavity contains a considerable quantity of blood. It is important to remember that the spleen does not always reach these large proportions, though in most cases, if not in all, there will be some enlargement of the spleen, of which the blood is dark and tarry in appearance. On making an incision into the organ, which is in a more or less diffluent condition, the dark blood flows into the incision. If a piece of spleen is cut off, blood flows from it. If putrefaction has not far advanced the bacillus anthracis is found here. As putrefaction progresses the anthrax bacilli become less and less, and in their stead we have putrefaction organisms. So that in some instances we may find both bacillus anthracis and putrefactive organisms. If a slide is mounted with blood in this condition, without any preparation of drying or staining, we notice moving and non-moving bacilli, the former being putrefactive, the latter probably those of anthrax. With a little experience one soon becomes able to form a decided opinion without the aid of the microscope, nevertheless it is often necessary. In the intestines there may be evidence of inflammation and blood effusion, more or less intense. Sometimes there is much infiltration of the coats of the bowel with the gelatiniform material described before. The mesenteric lymphatic glands are enlarged, and usually dark from vascular engorgement, Occasionally there are blood markings in various parts of the carcase, especially in kidneys and heart, and collections of jelly-like nature; this is most common about the throat.

In the horse gelatinous exudation about the throat and neck is more common than in cattle. (Loodianah Disease, India.)

In the *pig* the throat lesion is most frequent; they probably nearly always contract the disease by eating parts of affected carcases. The amount of this material is often very large, the lymphatic glands are engorged with blood and inflammatory products. In both horse and pig the other lesions described as occurring in cattle are in varying degree noticeable. In pigs Crookshank often found ulceration of the tonsils, and the spleen not much affected. In dogs there is a collection of more or less gelatiniform material about the throat.

After inoculation of mice, rabbits, and guinea-pigs, there may be found in

those cases which have not died very soon, some gelatiniform material at the seat of inoculation; this is not observable, or only in very small amount, in those cases which terminate rapidly; otherwise, the lesions are those of swollen spleen and hæmorrhagic markings, usually not very great.

The foregoing are the typical lesions found on making general autopsy; but I think we shall all agree that the more rarely we make such, the more consistently shall we act with our knowledge of the whole subject, and our duties as conservators of animal and human health. I would, however, here like to say that my personal experience certainly does not coincide with descriptions often given by writers on this subject; often the spleen being the only organ or part markedly affected. There is, too, a tendency for venous engorgement, but gross lesions other than that of the spleen are frequently wanting.

(To be continued.)

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting of this Society was held on Thursday night, the 6th inst., at the Royal College of Veterinary Surgeons, 10, Red Lion Square, Bloomsbury. Mr. S. Villar, the president, occupied the chair, and the other Fellows present were Messrs. A. L. Butters, J. K. Bruce, Jno. A. W. Dollar, H. Edgar, Thos. C. Garry, J. S. Hurndall, Prof. F. Hobday, F. W. Kendall, Geo. C. Lowe, F. C. Mahon (hon. sec.), Joseph H. Manton, Prof. J. Macqueen, Messrs. A. Prudames, G. E. O. Reddish, H. G. Rogers, W. Roots, J. E. Richards, F. G. Samson, H. M. Singleton, P. Vincent, F. G. L. Walpole, F. W. Willett, W. H. Williamson, and among the visitors were Spooner Hart, Esq., M.R.C.V.S.

On the motion of Mr. A. L. Butters, seconded by Mr. H. G. Rogers, the minutes of the preceding meeting were taken as read, and were confirmed.

The Hon. Secretary (Mr. F. C. Mahon), intimated that he had received communications from Mr. W. Hunting, Mr. J. Roalfe Cox, and Mr. C. Sheather, expressing regret because of their inability to attend.

New Fellows.

A ballot ended in the unanimous election of the following gentlemen as Fellows of the Society: Mr. N. Almond, F.R.C.V.S., of Chelmsford, and Mr. G. Upton, M.R.C.V.S., of Priory Farm, Dartford.

British Institute of Preventive Medicine—Proposed Grant.

The Secretary read a circular letter which he had received from Mr. A. W. Hill, secretary of the Royal College of Veterinary Surgeons.

Mr. A. Prudames: With your permission I should like to say a few words on this subject and ask you to consider a resolution which I will move. This matter, as you are aware, has been brought before us on more than one occasion and there appears to have been a great division of opinion as to what should be done, how it should be done, and when it should be done. You will remember that some time since "the veterinary profession" was practically ignored by the promoters of this Institute. That being so, it was thought then that we should ignore the Institute. Now, I am pleased to note that our profession is no longer ignored. They have, as you are aware, placed one of our number in an active position in the Institute and, as stated to us by Dr. Ruffer at our last meeting, he is doing really good work. Under those circumstances we as a profession, although in a small degree, are acknowledged and are placed in a position which enables us to show that we are of some use. Hence I think it behoves us to manifest our good feeling and good wishes towards "The British Institute of Preventive Medicine" by subscribing to it what we reasonably and fairly can afford, having regard to the various claims made upon us and the amount of funds at our disposal. I take it for

granted that we have no wish to keep a very large nest egg, although the possession of a nest egg is always of value to a society as to an individual and gives one a standing. I beg to propose "that our secretary be requested to reply to this letter stating that this society is prepared to give 25 guineas as a donation to the British Institute of Preventive Medicine."

The CHAIRMAN: Allow me to say that rule 25 of this Society will not admit of the motion being framed in that way. We can only recommend the Council to grant the money.

Mr. J. S. HURNDALL: I should like to ask Mr. Prudames this: What advantage may we expect in return for this 25 guineas? Personally, I do not see any utility in handing over that sum out of a balance of £61 odd which we have at our disposal, unless we know that we are going to get something in return. Are we to make this grant merely for the sake of tacking ourselves on to the tail of the medical profession? If so, I think the money could be better disbursed in being voted to some fund to be established in connection with our societies for doing work of this description ourselves—I mean such special work as this Institute professes to do, or aims at doing. Plenty of good men in our own body would come forward to undertake the work. Personally, I have no sympathy with this proposed grant to the British Institute of Preventive Medicine. I have never been able to learn yet what they propose to do, nor how they intend to use any money that may come from our profession.

Mr. H. G. ROGERS: I am somewhat of Mr. Hurndall's opinion. I do not think we are rich enough to make a sort of benevolent fund of this Society. I do not know whether it is generally known, but something like £5,000 has been given by individuals to this British Institute of Preventive Medicine. Like Mr. Hurndall, I should very much like to know—before we entertain this motion—something of the scope and object of this Institute: What sort of good we are going to derive from it! It is in my memory that when we are associated with medical gentlemen in any particular movement, we do not take a front seat. If anyone here is able to afford me any information as to the work undertaken by this Institute, I shall be very grateful to him if he will enlighten me. There is another matter, however, down on the agenda relative to the proposed Jubilee Memorial which touches us more nearly than the British Institute of Preventive Medicine. Our balance of £61 is not very large, and we should not touch our invested funds for subscriptions.

Mr. PRUDAMES: I have no special information concerning this Institute, only that which has appeared in the veterinary and other journals. At the same time, I do feel that we as a profession ought not to be entirely out in the cold in this matter. We ought at least to show a front equal to our position. We cannot aspire, because we are not a wealthy body of men like the medical profession; and, in my opinion, we cannot and never shall be thoroughly and completely their equal. But there is no reason why we should not do our best. I may add that if, individually, any members of our profession are able further to help this Institute and to bring the body to which they belong to the front, we shall be glad, and the Institute will no doubt be thankful for any subscriptions of this description. The grant I propose is one which I regard as being within the means of this Society, By making this grant we shall make known our existence, not only to this Institute, but to the public; and we must keep before the public if we would maintain the position we ought to hold. I will amend my motion as follows: "That this meeting desires to recommend to the Council of the Central Veterinary Medical Society that the sum of 25 guineas be voted to the British Institute of Preventive Medicine, and that the Secretary be authorised to reply to Mr. Hill accordingly."

Mr. SINGLETON: I have much pleasure in supporting the resolution sub-

mitted to us by Mr. Prudames. I think we may be congratulated on deeming the subject of sufficient importance to occupy our attention this evening. The founding of the British Institute of Preventive Medicine is an event of national importance, and constitutes an epoch in the history of British medicine; the promoters are to be congratulated on having succeeded in removing a stigma which for long attached to medical science in this country; and seeing that the greatest advantages to public health may be expected to be derived from the institution it seems almost incredible that it should yet be allowed to remain in the singular, the anomalous, the unaccountable position of being wholly unsupported by parliamentary aid, and considering the magnitude of the undertaking, the difficulties to be overcome, the ignorant prejudice and silly sentimentality which exist in certain quarters, the enormous outlay—£100,000 being the sum required—it is not to be wondered at that the medical profession should have taken the lead in the matter. But although they have taken the lead, there is no reason whatever why we should remain altogether behind. The objects of the institution and the purposes for which it will be based, namely, the study of infectious diseases and the best means of resisting them, are of vital interest to the veterinary profession, and therefore it behoves us to support it. Nor do I think it a question of what we shall be given in return. I venture to think that is not precisely the point at issue this evening. If we avail ourselves of the opportunities which the British Institute of Preventive Medicine offers to us, and take up research work there, you may depend we shall get exactly what we deserve, for it rarely happens that any valuable scientific work is consigned to oblivion. Pathology being as much dependent on veterinary medicine as on human medicine, and they having their place and we having ours, let us join them in this object—the advancement of science.

Mr. W. Roots asked whether, in the event of their secretary writing to Mr. Hill telling him that the Society had passed a resolution recommending the Council to grant 25 guineas to this Institute, the hands of the Council would not thereby be bound.

The Chairman: Not at all.

Mr. Hurndall: Suppose after the letter is dispatched to Mr. Hill, the Council do not adopt the recommendation—and they have the right to reject it.

Mr. Roots: Does it not rather bind the Council writing to Mr. Hill to tell him that the Society have recommended them to grant this sum?

Professor Macqueen: It was unfortunate to introduce the name of Mr. Hill at all in this business. We have nothing to do with him.

Mr. Prudames received permission to amend his resolution by simply limiting it to a recommendation to the Council to grant 25 guineas for the purposes of the British Institute of Preventive Medicine.

As amended the resolution was carried by 17 votes against 4.

On the motion of Mr. F. G. Samson, seconded by Mr. Roots, the secretary was instructed to write Mr. Hill, for the information of the Council of the Royal College of Veterinary Surgeons, that the subject of his letter was under consideration.

Grant to the Jubilee Fund.

Professor Macqueen explained the initiation and progress of the movement for commemorating in a befitting and permanent manner the efforts of those who were instrumental in obtaining the first Charter of Incorporation of the Royal College of Veterinary Surgeons in 1844. In July last the Council of the College, on the motion of Mr. R. C. Trigger, voted a sum of not less than £50 as the nucleus of a Jubilee Memorial Fund. A committee was appointed to carry out the object, and at its meeting in August last appointed Mr. Trigger as its chairman, Mr. Wragg as its treasurer, and himself (Professor Macqueen)

as honorary secretary. A circular inviting co-operation was issued to all the members of the Council of the Royal College, the principal Army veterinary surgeons, the principals and professors of the different teaching schools, the presidents and secretaries of the veterinary medical societies, and to the secretary of the veterinary department of the Board of Agriculture. Favourable replies were received from a majority of those to whom the circular was sent. The enlarged committee comprised (1) all the members of the council of the R.C.V.S., with the exception of two or three gentlemen who were unable to devote sufficient attention to the work. Secondly, with the exception of Profeessor Walley, the principals of all the schools had joined the committee. Professor Walley, he (Professor Macqueen) was sorry to say, was too ill to take part in any movement whatever. Had his health permitted, no member of the teaching profession would more gladly have lent his aid to that movement. All the professors of the teaching schools—every veterinary teacher—had consented to assist in the project. A large majority of the presidents and secretaries of the medical societies had also agreed to act, as had also Professor Brown, C.B., and Mr. Cope, of the Veterinary Department of the Board of Agriculture. As yet he had not heard from the principal veterinary surgeon of the Army. The committee thus augmented met the previous week under the presidency of Mr. Trigger, when it was decided that the memorial should take the form of a scholarship or bursary to be called "The Charter of Incorporation Scholarship or Bursary." That was the main recommendation of the committee which the Council of the Royal College of Veterinary Surgeons adopted at its meeting held subsequently the same day. Subscriptions were now invited from societies and individual members of the profession. How the scholarship or bursary was to be awarded would depend upon the amount subscribed. In addition to the £50 which the Council of the R.C.V.S. agreed to give, the Midland Counties V.M.A. had subscribed £50, and other contributions had been received varying in amount from one to ten guineas. The total up to date was nearly £200. Now, he (Professor Macqueen) was there that evening as a beggar on behalf of the Jubilee Memorial, and he felt that he could appeal with a far greater degree of confidence to their sympathy than had Mr. Prudames in his plea for the British Institute of Preventive Medicine. The Jubilee Memorial Fund was one which entirely concerned the veterinary profession, and they would have a voice and vote in the disposition of the money subscribed. He proposed that the meeting recommend the Council to grant 25 guineas towards the fund named.

Mr. PRUDAMES: May I ask whether the committee has arranged for the scholarship to be open to all the schools?

Professor MACQUEEN: That is entirely a matter for the Council of the R.C.V.S. and the committee, and is not yet decided. Some suggest a post-graduate's bursary, and some propose a students' bursary.

Mr. HURNDALL: I notice that in our balance-sheet there is an item of £20 called a "Jubilee Grant" which was really spent upon a smoking concert to celebrate the event. After spending £20 in this way, I think it would be unworthy of us not to give more than 25 guineas towards the scholarship or bursary it is designed to found in honour of the promoters of our first Charter of Incorporation. It may be thought that I am inconsistent because I took exception to giving 25 guineas out of our credit balance of £61 to an Institute with which I am not in sympathy. But here is an object than which a more worthy one, so far as our profession is concerned, cannot be imagined, and I do think that after voting £20 for a smoking concert and having regard to the fact that the Midland Counties Association has granted £50 towards the Jubilee Memorial, we cannot do less than recommend that our Council do make a similar grant. I move therefore a recommendation to that effect.

Mr. H. EDGAR: I have great pleasure in seconding the proposition that our Council be recommended to subscribe £50 to this most worthy object. I think it will ill befit the Central Society to be below the Midland Counties Society in this matter, seeing that the object is one with which we are certainly in full sympathy and one which should be supported to the utmost power of this Society.

Professor Macqueen's motion not having been seconded, Mr. Hurndall's proposition was put as the original resolution, and was carried unanimously.

Morbid Specimens.

Mr. W. H. WILLIAMSON submitted for inspection a tumour removed from the abdomen of a small Scotch terrier in the course of a *post-mortem* examination. The tumour, he said, was one which involved the whole of the mesentery. The organs were healthy, save the stomach and the heart, the valves of which were all affected. The most curious point in the case was the weight of the tumour, namely, 1¾ lbs. He had not made a microscopic examination of the tumour, but he should imagine from its appearance that it was carcinoma. The dog showed no symptoms of ill-health until a week prior to its death, although the tumour was known to have been forming six months before.

Mr. T. C. GARRY exhibited two photographs showing lesion—intussusception of the small bowel in a horse, the principal interest attaching to the exhibit being the extent of the bowel involved, which, Mr. Garry said, was something like 30 feet.

In reply to Mr. Prudames, Mr. GARRY said, I fancy the horse was about nine or ten years old.

Mr. EDGAR: I should like to ask Mr. Williamson if he found in any way a deposit in the little dog, if any of the glands were involved, and if the symptoms were exhibited by the dog. I can readily understand that a tumour of these dimensions must have been easily discoverable on external manipulation. But was there any special sickness or diarrhœa or anything of that kind?

Mr. WILLIAMSON: I found no deposits except in the spleen, which is also being passed round. As to symptoms, the tumour was detected about six months before the dog died. It showed no signs of illness until a week before death when it had sickness and diarrhœa.

Mr. EDGAR: There was never any injury to the dog known?

Mr. WILLIAMSON: No, never.

On the motion of Mr. Prudames, seconded by Mr. Edgar, thanks were unanimously accorded to Mr. Williamson and Mr. Garry for the morbid specimen and the photographs which they respectively submitted.

Congress of Hygiene (Veterinary Section.)

The CHAIRMAN: It will be in your recollection that Mr. J. A. W. Dollar was asked at a meeting of our Society to act as our special delegate to the International Congress of Hygiene and Demography held at Budapest. He has been good enough to write a report, and I will ask him to be kind enough to read it to us.

Report on the XVII. (Veterinary) Section of the International Congress of Hygiene and Demography at Budapest.

By JNO. A. W. DOLLAR, M.R.C.V.S.

Mr. President and Gentlemen,—My first words this evening should be devoted to thanking you for the expression of confidence implied by your appointing me your delegate to the International Congress of Hygiene and Demography. That confidence I have endeavoured to deserve, but I cannot

help feeling that your decision in this matter was prompted less by any good qualities of mine than by the desire this Society has always shown to encourage its younger members. Under these circumstances I did not hesitate to accept, and I have now only to ask your indulgence while I render some account of my stewardship. The task itself is of no slight difficulty, for it consists in conveying to you in one short hour some idea of the doings and sayings of a week, and I therefore hope you will deal leniently with any shortcomings.

The opening of the 8th International Congress of Hygiene and Demography was celebrated by a series of brilliant ceremonies. On the evening of the 1st Sept. a meeting took place in the hall and gardens of the National Museum, but it was not until the following day that the opening of the Congress was officially celebrated. The ceremony was performed by his Royal and Imperial Highness Archduke Louis in person, and took place in the Redoubt, an immense public hall, built and decorated in the Moorish style, which is said to have cost £600,000. Immediately after the ceremony the Royal Joseph Polytechnicum, in which the meetings of the various sections were to take place, was opened to the members of the Congress.

Business commenced in earnest on Monday morning. On that day the XVII. or veterinary section was inaugurated by the reading of papers by Professor Bang, of Copenhagen, and by Professors Hess, Siedamgrotzky, Nocard, Perroncito and Thomassen, on the diagnostic value of tuberculin. It is impossible of course to do more than briefly sketch these.

Professor Bang referred to 150 cases in which he had verified the indications of tuberculin by *post-mortem* examination, and to 190 other *post-mortems* made after tuberculin injections. Excluding questionable cases there remained 207 in which the reaction had been well marked, and of these 96 per cent. proved undoubtedly tuberculous. He thus came to the conclusion that tuberculin was an exceptionally reliable agent in the diagnosis of tuberculosis. These experiments, however, also showed him that in certain localities 80 per cent. of the cattle are tuberculous. Under such circumstances it would be a grave undertaking to kill off all that react; but luckily this seems unnecessary, and Bang recommends that those cattle which react but show no clinical appearances of tuberculosis should be preserved, and says that they may even be used for breeding by taking the precaution of removing the calves when born and bringing them up by hand. Most calves which react to tuberculin show intestinal or retropharyngeal tuberculosis. This Bang thinks is due to feeding with raw milk, and he therefore recommends boiling it from the second day onwards.

The experiments made in Zeeland show that such precautions greatly check the spread of disease. Two years ago Bang tested 208 cattle on one estate in Zeeland, and found that 80 per cent. of the cows, 40 per cent. of the steers, and 40 per cent. of the calves reacted. Few appeared perfectly healthy. The sound animals were separated from those infected, and special attendants kept for each. The calves of diseased mothers were separated at birth and fed on boiled milk. A few weeks after birth each was tested with tuberculin, but not a single one reacted. Each year the whole herd was injected twice. The first year, when isolation was still incomplete, 10 per cent. of presumably healthy animals reacted; but the second year only one out of 107 was affected, and this spring only two out of 122. Bang's method seems the easiest and cheapest for stamping out tuberculosis.

In 1893 a law was passed in Denmark devoting 80,000 kronen to experiments with tuberculin. Bang was entrusted with its administration. 8,401 animals, distributed in 327 farms, have been inoculated up to the present, and of these 3,362 reacted. The greatest number was always found where the traffic was most active, isolated farms being often entirely free.

Hess, of Bern, opposed certain of Bang's conclusions, pointing out that after using tuberculin the animals often showed severe symptoms, such as loss of appetite, great depression, and diminished yield of milk. The local swelling often lasts four to five days. The worst effects are, however, the production of acute tuberculosis, and therefore, whilst Hess considers tuberculin an excellent diagnostic material in most cases, he warns us against relying on it in either old or wide-spread tuberculosis, and lays stress on the frequent occurrence of acute miliary tuberculosis.

Professor Nocard then spoke, referring to the experiences gained in France, Saxony, Berlin, and Copenhagen, which point to tuberculosis being contracted during adult life. Observations made in the Paris slaughter-houses show that tuberculosis is rare in calves, though 20 to 25 per cent. of the cows are diseased, and therefore Nocard considers that heredity plays a very insignificant part in its spread. As compared with foot-and-mouth disease, swine erysipelas, or swine plague, the infection of tuberculosis is peculiar, inasmuch as whilst a very short period of contact is sufficient to hand on disease in the former affections, in tuberculosis long and intimate contact is necessary. In Paris, since the custom has obtained of keeping milch cows only one year, and then sending them to the butcher, the disease has greatly decreased, whilst formerly, when they were kept five or six years, the disease was very wide-spread. Nocard considers tuberculin the best test for tuberculosis, and, in contradistinction to Hess, has seldom seen even a falling-off in milk production after its use. He recommends testing all suspected animals with it, and thinks the immediate slaughter of those which react unnecessary, provided only they show no clinical symptoms. By merely isolating them, their usefulness for work, or milking, is preserved, or they may be prepared for the shambles. Nocard has only seen two cases of generalised tuberculosis in 2,000 cases tested with tuberculin.

A well sustained discussion followed, during which Professor Ostertag pointed out the great dangers of allowing animals to feed at a common manger, a method he said which especially favoured the spread of tuberculosis.

At the conclusion President Dammann summed up the results of the discussion as follows: "The essayists are agreed that tuberculin is a most valuable diagnostic agent. The number of failures with it is practically unimportant. The greater number of those present do not share Hess's views as to the frequent occurrence of acute tuberculosis after inoculation, and therefore consider his warning unnecessary." This concluded the business of section XVII. for Monday.

In the first section a paper of the greatest interest dealing with antitoxic serums was given by Dr. Roux, of the Pasteur Institute. As the subject has lately become of much importance in connection with the prevention and cure of diphtheria I cannot entirely pass it over. Dr. Roux endeavoured to explain the method by which antitoxic serum when injected into the body produces its protective result. You are all probably aware that if a small quantity of serum from an animal immune against diphtheria be injected into the body of a fresh animal that animal is afterwards able to resist the injection of large quantities of diphtheritic poison—quantities three, four, or five times as large as those usually necessary to produce death. A further beautiful experiment has shown that protective serum when added to the toxine in a glass vessel appears to neutralise it just as an alkali neutralises an acid. But the action is not so simple as might at first appear. In many diseases, like cholera, typhoid fever, pneumonia, and hog-cholera the serum of protected animals possesses no antitoxic power whatever, and though the animals resist injection of the microbes they are just as sensitive to injection of the soluble portions produced by these microbes as ever they were. Their serum

does not protect against the toxine, but only against the microbe. M. Metschnikoff has shown the reason to be that protective serums stimulate the phagocytes or white blood corpuscles to increased activity, and that these devour the microbes. This explains why serum from an animal vaccinated against one disease may protect against a totally different disease. M. Metschinikoff therefore prefers to name the active principle in protective serum not an "antitoxin" but a "stimuline." But protection from microbes and protection from toxines are two very different affairs. Up till now only the serum of the animals inoculated against tetanus, diphtheria, abrin, ricin, and serpent poison have been discovered to be antitoxic. This antitoxic power may become so developed as to render serum capable of neutralising many million times its bulk of toxin. Dr. Roux considers that the antitoxin is a cellular secretion, and that it is produced by the irritation set up in the cells by the presence of the toxin, but the subject is still too little advanced to say what are the tissues principally involved in this action.

As I previously remarked, the protective serum does not simply neutralise or destroy the toxin of tetanus. This fact has been demonstrated by a very pretty experiment. A mixture is made of 900 parts toxin and one part serum, Half a c.c. of this is injected under the skin in each of five normal rabbits. All remain healthy. If now we take five other rabbits of equal weight. and apparently quite healthy, but which have previously been rendered immune against the Massowah vibrion, and inject them with the same quantity of the same mixture, they will contract tetanus. Nay, more, they will take the disease if injected with one-third of a c.c. of a mixture of 500 parts only of toxin and one of serum. The toxin has, therefore, not been destroyed, nor even effectually neutralised, since it is only necessary to modify the resistance of the animals and its effects become apparent. It would, therefore, seem more probable that the action of the serum is not directly on the toxin, but on the cells, and that these latter, when stimulated by the presence of the serum, become indifferent to the toxin, and are unaffected by it. It would, of course, be better if we were able, after mixing them, to again separate the toxin and antitoxin, but this is at present impossible. MM. Calmette, Phisalix, and Bertrand have, however, performed an analogous experiment, and shown in a very perfect manner the nature of the combination. The serum of animals vaccinated against snake-poison is antitoxic, *i.e.*, it neutralises the poison. A mixture of the two in proper proportions is harmless. But if the mixture be heated to 70° C., all the virulence returns—the antitoxin is decomposed, whilst the venom is unaffected. From this it would seem that the antitoxin has remained in contact with the poison without uniting with it, or only in a very unstable manner.

It has always been considered that the antitoxic serum acted solely in one disease—that is to say, that diphtheritic serum acted only in diphtheria and tetanic serum in tetanus, but that tetanic serum had no action in other diseases. This view has been lately shown to be erroneous, and Dr. Calmette has fonnd that whilst normal horse serum has no effect on cobra poison, antitetanic horse serum neutralises it. The converse, however, is not true——serum from an animal vaccinated against cobra poison in no way protects from tetanus toxin.

Such examples as the above might be multiplied, but in a report like this I am forced to remember that conclusions and not arguments can alone find a place.

The second day was occupied with preventive inoculation against contagious pleuro-pneumonia. Professor Arloing spoke first. He showed by numerous photographs and diagrams that in the acute forms of pleuro a bacillus could always be found, and that its colonies rapidly liquefied the gelatine (pneumo-bacillus liquefaciens). This bacillus he regarded as the

cause of the disease. By injecting it subcutaneously a certain degree of immunity was conferred, whilst if a glycerine extract of the bacillus were made (similar to mallein) and injected under the skin, it produced a reaction which was more pronounced in animals suffering from pleuro-pneumonia contagiosa. Arloing, therefore, thinks it might be used for detecting the latent forms of that disease.

(To be continued.)

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

THE seventeenth general and fourth annual meeting of the above Society was held at the Grand Hotel, Aytown Street, Manchester, on Thursday, December 6th, 1894. Peter Taylor, Esq., the President, in the chair. Present: Messrs. Geo. Morgan, W. A. Taylor, A. Lawson, T. Hopkin, E. Faulkner, H. Ferguson, H. D. Chorlton, A. W. Mason, J. H. Carter, J. B. Wolstenholme, R. C. Trigger, and the secretary.

Minutes of the last annual meeting were read and confirmed.

Letters of apology for non-attendance were read from Professor W. Williams, R. S. Reynolds, H. Thompson, J. E. Scriven, Wm. Maynard and Son, H. G. Goodall, J. Abson, W. Carless, C. Blackhurst, and A. J. MacCallam.

A letter was read from the Central Veterinary Medical Society, asking if the above Society was prepared to consent to an alteration of its basis, with a view of separating the benevolent from the defence objects of the Society. It was resolved that no alteration be contemplated, as we had not sufficient grounds for so doing.

A letter was also read from the Secretary of the Royal College of Veterinary Surgeons asking if we had a desire to subscribe to the British Institute of Preventive Medicine. It was resolved that, while sympathising with the object in view, we have no funds to draw upon for any such purpose.

The PRESIDENT then addressed the meeting. He was very pleased to meet the members once more and to preside at the annual meeting. He very much regretted the unavoidable absence of his old friend and so long a colleague, Mr. T. Greaves, through illness; he did not remember a general meeting in which he had been absent before that day, and he hoped he would soon regain his health and strength. The past year had been one of joy to the executive, having had no cases to defend in court of law, but they have had a good deal of work, having some five or six cases to give advice upon, only one of which required settling, which was done very amicably to all parties concerned. He hoped the Society would continue in its good work.

The SECRETARY said he had pleasure in being able to give a satisfactory report of this Society. Its need and usefulness is becoming more apparent every year. Besides receiving application from members, we have many from non-members and relatives of same, seeking advice and help. The former we can give, but not pecuniary assistance, as we are precluded by our rules from doing so. I would singly advise all members of our profession to join such a useful Society. I cannot for one moment understand the apathy or indifference of a great number of our profession. Why do they not join a society which offers such a substantial assistance when needed for the small sum of 10. 6d. per annum, and where, if they do not require it, they would have the satisfaction of doing some little towards the relief of those who are not so fortunate as themselves; also to the fatherless and widows. I am sorry to report the death of our old and esteemed member, Mr. J. B. Taylor, who was elected a member of the Council at the last annual meeting, His loss we

deeply deplore. You will be pleased to learn that Professor W. Williams, of the New Veterinary College, Edinburgh, has kindly accepted a nominee of this society to a free studentship. During the last three years we have enrolled 47 new members. Members on the books at the present time, 159.

Mr. GREAVES, in presenting the financial statement for 1894, said he had great pleasure in announcing the continued success of each branch, a larger increase of members (twenty during the year), and also in the amount of subscriptions, there being £18 8s. 6d. more than in 1893. During the year we have had several applications for assistance in cases of great need, but, unfortunately for them, they had failed to become members. They therefore had no claim upon our funds. We have also had before us several claims made upon our members. The Council has been called together, and the merits of the case carefully and dispassionately considered, and if found to be such as could not be defended, we have rendered personal assistance in arranging matters between plaintiff and defendant; and, in such cases, the fairness of the terms agreed upon has in every case been so satisfactory, that the business friendship and reputation of one member has been established.

Benevolent Fund—

	£	s.	d.
Amount of dividend received, 1894	102	19	10
Cash in hand and bank, December, 1893	336	8	2
(Half year's interest to be added, December 29th, 1894.)			
„ in Birkenhead Docks	1900	0	0
„ in Manchester Corporation	900	0	0
	3239	8	0

Defence Fund—

	£	s.	d.
Subscriptions, 1894	107	14	0
Cash in bank and in hand, December, 1893	337	18	10
(Half year's interest to be added, December 29th, 1894.)	445	12	10

The whole of the expenses for 1894 being £8 9s. 8½d.

On the 17th of April, 1894, the books and accounts were carefully audited by Mr. Pownall, accountant, and Mr. Wolstenholme, V.S., who were appointed at the annual meeting; they found the books and accounts perfectly correct. On the following day they met two of your trustees at the District Bank and inspected the deeds and vouchers for their correctness.

The following officers were appointed:—President: Mr. Peter Taylor, Manchester; Vice-President: Mr. John Morgan, Liverpool; Treasurer: Mr. Thos. Greaves, Manchester; Secretary: Mr. Sam. Locke, Manchester; Members of Council: Messrs. J. S. Carter, E. Faulkner, T. Hopkin, John Lawson, A. W. Mason, R. S. Reynolds, J. E. Scriven, W. A. Taylor, H. Thompson, R. C. Trigger, W. Williams, F. W. Wragg; Auditors: Mr. Pownall, of Messrs. Butcher, Dillon & Pownall, and Mr. J. B. Wolstenholme, V.S., of Manchester.

Mr. Hopkin suggested that the attention of the Council be drawn to the large amount of funds in bank and in hand, as to the desirability or not of investing same.

Mr. G. Morgan proposed and Mr. W. A. Taylor seconded the proposition, that in future a copy of the balance-sheet be forwarded to each member. Carried.

It was proposed that the Secretary write a letter of condolence to Mr. Thos.

Greaves in his sickness, and to express the hope that he would soon recover his usual health.

A hearty vote of thanks was given to the retiring officers for their services during the past year, and to the President for presiding.

SAM LOCKE, *Hon. Sec.*

Reviews.

INVESTIGATIONS CONCERNING INFECTIOUS SWINE DISEASES. By THEOBALD SMITH, P.H.B.M.D., and VERONUS A. MOORE, B.S.M.D. (U.S. Bureau of Animal Industry, Bulletin No. 6, 1894.)

Quite of late we fear the bacteriologist and his methods have not been receiving from either the laity or from the average members of the healing professions the same profound respect with which they were first hailed.

In an intensely utilitarian age and island, this is not to be wondered at. Probably rather too much has been looked for to be made at once available for that ultimate aim, the cure of disease; and even in the more hopeful direction of the prevention of disease by inoculative immunisation, the successes have not yet been numerous and decided enough to occupy a much more fortunate position.

As tending, however, to an increase of confidence in all matters bacteriological, whether diagnostic, curative, or preventive, we think the several bulletins issued by the U.S. BUREAU OF ANIMAL INDUSTRY must go a long way.

No. 6, being the record of investigations concerning infectious swine diseases by Drs. Theobald Smith and Veronus Moore, is an example in many ways of how careful and united efforts in a difficult subject may be capable of arriving at results, such as, with too few exceptions, the desultory, unaided and often aimless pursuit of similar researches in our own favoured country is not likely to reach.

The report contains evidence of much good work, with an elaboration of detail almost German in its extent and minuteness, and several points of not only special but of general interest in the germ theory of disease have been raised. Among these is the question of the possible existence of distinct varieties of the same pathogenic species, still looked on with considerable reserve by the Koch school of bacteriologists. The results here appear to be affirmative. Many profound changes in the bacillus itself morphologically and functionally have been seen clearly to result from its artificial culture, changes more decided than previous investigations have generally shown to be possible. Indeed, one decidedly new variety is considered to have been so produced.

The opinion is risked by our authors that the hog-cholera bacillus may be but a modification produced in that animal from the ordinary colon bacillus, by conditions induced by improper feeding, particularly so in this case as it appears from the experiments made by these gentlemen that the hog is not naturally so susceptible to the pathogenic action of this particular germ as are some other animals. In this respect the question of acquired pathogenic properties by a common and generally harmless microbe bears similarly upon the relation of the *coma bacillus* to cholera in man. Various culture media were employed in these researches, but we think we notice a preference for what might now be considered somewhat old methods. As showing how little may make a difference, it was found that a slight change in the degree of alkalinity of the medium produced a distinctly different type, not only in the morphology of the organism, but also in respect to their fermentative actions on sugar: a property possessed more or less by this whole group.

The hog-cholera bacillus as shown by this report develops decided septic conditions in most small animals, and is generally rapidly fatal to them. For over six years Smith and Moore have found an artificial cultivation to be quite as capable of killing a rabbit at the end of that period as at the beginning; in four days after the injection of ·12 c.c. into the ear vein, death usually took place. A bacillus identical with that of hog cholera was found *in a mare after abortion.* An organism also in every way identical has been found *affecting the human intestines* by Gœrtner in Saxony. But perhaps the most interesting variety popularly of the same organism is the one recently discovered by Professor Tœffler of Griefswald, as the cause of an epizootic among white mice kept by him for experimental purposes. As may have been noticed from recent accounts, this same germ—the *bacillus typhi murium*—has been utilised as a remedy for the plague of mice in Germany—the peasants from affected districts being induced to come to certain head-quarters to receive pieces of bread soaked in a thin gelatine culture of the germ. Mice eating these crumbs rapidly die, and as their bodies are used up by their fellows, a rapid killing out is secured. (How slow we have been to find a remedy for the same pest.)

Much confusion even to-day seems to exist in regard to the naming of swine diseases, but assuming that what most authors mean by swine-plague is really a disease distinct from hog-cholera, these researches only in some points show them to be different. Indeed, one of the types of the hog-cholera bacillus was in a very large number of cases found along with the swine-plague germ in the latter disease. In regard, however, to the production of immunity by culture inoculation, there is a marked difference, immunity being easily got towards the swine-plague organism, but with great difficulty towards that of hog-cholera. The experiments in this direction made upon rabbits and guinea-pigs are numerous and interesting; to be appreciated, however, they must be read in detail. From the great difficulty experienced in producing the proper degree of immunity with safety to life towards hog-cholera no very practical benefit is as yet claimed.

In subcutaneously injecting the germs themselves, it was found that (1) "both these cases of hog-cholera and swine-plague remained alive in the tissue for several days; (2) the germ of hog-cholera became to a certain extent distributed through the body, chiefly finding their location in lymphatic glands; (3) those of swine-plague are not found beyond the part injected; (4) small doses of either have little, if any, pathogenic effect."

Injection with the blood serum of immunised animals seems almost to have failed in permanent results, and in those done with live cultures, the effects, when present, are so violent, and retard so much the growth of the animal inoculated, that the results commercially are wholly out of proportion to the value of the animal.

"The history of tuberculin in human tuberculosis has shown that slow and serious diseases cannot be cured or prevented by simple means."

"Only in very prolonged use and in minute doses, combined with other treatment"—in which food and climate play an important part—can any real benefit be secured. So also with preventive inoculation, only it is easier to prevent than to cure.

Rapid septicæmia seems to be more readily under the influence of preventive inoculation. In rabbits swine-plague would seem to take a very septicæmic form, and this has been shown to be much modified by inoculation with sterilised culture, blood or serum.

The whole question of inoculation for cure or prevention of disease has been prominently before the public now for some time, and the body of this report will be found to contain much useful information in regard to all the possible ways of producing beneficial effects,

these being, in short, as stated by our authors, by one or other of the following methods:—"(*a*) the use of attenuated cultures of live germs; (*b*) the use of sterilised bouillon cultures; (*c*) the same containing suspension of germs from agar cultures; (*d*) the use of sterilised blood from fatal cases; (*e*) the use of blood serum from animals in part immune. In fine, there are only the following three really different ways of producing so-called immunity:—(*a*) the use of living germs; (*b*) the use of their chemical products; (*e*) the use of certain still undefined substance in the blood called antitoxins, ulexins, &c."

It is to specially conducted investigations like these under consideration we look for a decision as to whether it is really in all cases a bacterial product that produces the result, pathogenic or protective, and seeing how widely animals differ in regard to natural immunity to certain diseases, experiments upon the particular animal most concerned are almost the only ones that can yield useful results. Again, as in many of these experiments of Smith and Moore's, the very prolonged physical deterioration of the inoculated animal comes to render such methods, either for cure or immunisation, if not absolutely unsafe to life, so unfavourable to a timely good condition of body that commercially the game may not be worth the candle.

Another most important point has here been raised, viz., that in view of the very possible origination (call it breeding if you choose) of virulent pathogenic organisms from comparatively harmless ones, by reason of nutritive and climatic modification, and that when once elevated to this bad eminence these organisms may now fatally affect other animals, man included, it becomes a duty to push such investigations as the above to a thoroughly practical issue. In this direction lie all the future hopes of medicine. Private enterprise has been shown to be capable of doing very much indeed in commercially barren fields of work, but it is not at all likely that much of such work as that we have been considering can be done by private individuals. Will it always be the case that our Government has to draw largely upon the results of foreign labour?

Liver Disease among Calves. (Report on Investigations during the Summer of 1893—4. By Otto Henning, Government Veterinary Surgeon).

It becomes evident after a perusal of this pamphlet that the scientific spirit is certainly abroad. The writer of the report (whose name does not appear on the register of the Royal College of Veterinary Surgeons) commences by expressing his regret that he had to live at the Richmond Hotel, a lively and frequented hostelry, while this enquiry was going on, as he did not deem it a suitable place "to perform scientific investigations." We don't know; there is a good deal to be said on the other side!

The instructions received from the Department of Agriculture among other things asked their veterinary surgeon (*b*) "to ascertain the conditions of the digestive organs, including the liver at the different stages of the disease as a guide to their therapeutical treatment."

(*d*) "To conduct therapeutical experiments by any likely medicine as experience suggests."

In answering question *b* the writer says, "I beg to submit to you a short description of 50 *post-mortem* examinations, all conducted and recorded by myself." We select a few from the 50:—

No. 1.—Liver: enlarged, section dark-brown yellow, pretty friable, greasy to touch.

Intestines: Gastro-enteritis, Catarrhalis diffusa, Typhlitis ulcerosa multiplex, Omasitis diphtherica.

No. 3.—Liver: Much enlarged, section grey-brown in some parts, cyanotic, white-grey spots in almost every acinus.

Intestines: Enteritis catarrhalis diffusa, hyperæmia partialis in the ileum.

No. 6.—Liver very much enlarged, section grey-red brown, small grey spots in many acini, vena centralis dilated, interstitial tissue hyperæmic.

Intestines: Gastro-enteritis, Catarrhalis ileitis hæmorrhagica.

Spleen: Intumesced.

Kidneys: Nephritis hæmorrhagica.

Pleural cavities: Nothing particular.

No. 10.—Liver very much enlarged, section appearance of a nutmeg, vena centralis dilated with blood, interstitial tissue hyperæmic, acini, swollen, white-grey.

Intestines: Ulcer in the fourth stomach, enteritis catarrhalis gravis. Folliculitis hæmorrhagica.

Spleen: Much enlarged, pulp, red-brown, thick fluid.

Pleural cavities: Emphysematous, friable, some lobules inflamed.

No. 11.—Intestines: enteritis, especially jejunitis et ileitis hæmorrhagica.

No. 30.—Intestines: Gastro enteritis catarrhalis, Choledochitis et cholecip-titis catarrhalis ictorus totalis.

Pleural cavities: Pneumonia bilateralis necrotica diffusa; intima of big arteries (aorta, &c.), icterical.

Sufficient of the *post-mortem* appearances have been quoted, we should think, to enable most of our readers to appreciate their importance, which, like that of John Bunsby's, "Observation lies in the application on't."

A list is appended of the medicines used to combat these pathological conditions, among others enumerated are:—

"Natrium bicarbonicum, natrium subculfurosum, alumen ustum, semen fœniculi, antifibrinum opium pulveratum, besides such simple remedies as kitchen salt, saltpetre, and even paraffin oil."

The investigator is candid enough to say that "there were no distinctly beneficial effects manifest."

We will not say anything about a series of experiments in which the unfortunate calves were drenched with "slime" scraped from their dead companions' bowels, it does not afford pleasant reading.

On p. 35 the writer states that "though I had not received any instructions to perform any microscopical or bacteriological examinations I did not fail to do so, seeing their absolute necessity and great importance." The result, however, of these microscopical examinations is not recorded, which is distinctly a pity, we might indeed expect to learn something from a man whose unaided eye can detect in the liver, not only the individual lobules, but the central hepatic venule, and even determine its condition, whether normal or dilated. Armed with a microscope it is difficult to see how nature could find a means to conceal her inmost workings from such an observer. It appears from some remarks at the end of the report that the Colonial Press does not give an unqualified support to these enquiries, but the expression of hostile opinions will doubtless be silenced by the concluding words of this pamphlet, "as long as our most dangerous diseases in horses, cattle, and sheep are not investigated scientifically, it will naturally be an impossibility for the representatives of the profession to give any reliable advice, or, in other words, to be of any remarkable benefit to this colony."

PROCEEDINGS OF THE THIRTEENTH ANNUAL CONVENTION OF THE UNITED STATES VETERINARY MEDICAL ASSOCIATION AND FIRST VETERINARY CONGRESS OF AMERICA (Art Palace, Chicago, October 16th, 17th, 18th, 19th, and 20th, 1893). Edited by W. HORACE HOSKINS, D.O.S., President. This is a handsomely got-up volume, with a good index, extending over 381

pages, dealing with many important veterinary questions in ethics, education, inspection, history and future prospects of veterinary science, in addition to others, more particularly professional matters relating to diseases, some of which seem to be peculiar to the American continent.

Passing over the preliminary proceedings of the first meeting, October 17th, the President's address, the election of honorary members, &c., we find that in the afternoon session of the same day the President (Williams, Montana), called upon Dr. Winchester (Lawrence, Mass.), "to report upon the question of contagious pleuro-pneumonia in Canada, as one of the reports of the committee on diseases." His report is to the following effect: "Canada is not a good place to learn about pleuro-pneumonia, because, except some specimens in the museum, I have not seen any. This may be thought to be an *ex parte* statement, but I assure you it is a very difficult place to get lungs from cattle that show any signs of pleuro-pneumonia, and out of a large number of lungs examined I have not found any Canadian animal which showed any sign of disease."

Dr. Winchester states that he is in no way officially connected with the Dominion Government, and is, more or less, an unprejudiced person. When it is understood that Canada is a powerful competitor with the United States in the export cattle trade, the impartiality of a United States veterinary surgeon, whose interests might be the other way, will be thoroughly understood and appreciated. He further states that, "so far as I know, no lung traced directly from a Canadian animal has shown a perfectly typical case of pleuro-pneumonia."

The discussion which followed was concluded by Dr. Clement (Baltimore), who observed, "I might make the further remark that the question must be settled from a clinical standpoint to a great extent as to whether or not it is to spread. If some lesions appear in an animal in a herd and then the disease does not spread, it certainly cannot be contagious pleuro-pneumonia." Th practical and common-sense conclusion enunciated by Dr. Clement will at once commend itself to the practical knowledge and experience of British veterinarians.

Passing over a considerable amount of matter on veterinary education, &c., left for future consideration, we come to a report on millet diseases in horses, by T. D. Hinebanch, V.S.:—"This millet disease existed in 1891–2 among horses fed on millet, the average death-rate being from seven to ten per cent. On many farms the death-rate was considerably higher, while on others no animals succumbed to the disease. A few of the animals affected remained permanently diseased, the disease having settled in the joints. The condition of the millet at the time of harvesting seemed to make no difference in regard to the virulence of the attack. That which was cut when one-fourth headed produced the same results as that which was fully headed or that which was partly ripened. The symptoms were as follows: For a number of days previous to the attack the kidneys acted very freely, then their action became less than the normal; the muscles of shoulders, chest, loins, and haunches became stiff and sore. Later on there is soreness of the joints, usually the stifle and hock. This often changes from one leg to another or from the hind to the fore extremities, with well-marked symptoms of pain and a slight amount of fever; the temperature varies from 102° to 104°, and in exceptional cases 106°F., but soon recedes. The pulse is frequent and hard and the fever is remittent rather than continued. This pain and fever continue in a greater or less degree during the whole course of the disease. It is a continued succession of ups and downs, gradually becoming less marked until the disease finally comes to an end. There are other symptoms, redness of the membranes of the eye, tongue coated, mouth hot, dry, and sticky—having a peculiarly sour odour—bowels constipated, urine scanty, thick and stringy. The pain

in the muscles causes the animal to assume a cramped or drawn-together position in the back, arched, and with a well-defined line along the lower end of the ribs. The animal has no disposition to move, but if made to do so has a straddling, ungainly, painful gait, frequently groaning at every step. He occasionally lies down and is unable to rise, more from the severe pain than from any changed condition of the muscles or joints. At first there is profuse sweating, especially in the region of the affected muscles. When the disease occurs in mares there is frequently slight tumefaction of the vulva, which extends into the vagina a variable distance; the connective tissue is engorged with serum until in some instances the swelling assumes immense volume.

A number of the cases showed well-marked symptoms of pleuritis and pleurodynia, the pleurisy being very severe, accompanied by a temperature examined by Mr. Barber: Did not know the mare was in Knaresboro' that day. of 102° to 104°. With vigorous treatment it usually subsided within twenty-four to forty.eight hours. The joints then gradually became affected, until the typical form became established.

Duration of the Attack.—There is no definite limit to the time a horse may suffer from a single attack. Mules, which also are subject to the disease, have a severer form, which lasts much longer. Indeed, it appears that mules scarcely ever recover entirely under five weeks to as many months, and they are apt to remain permanently unfit for work.

Some cases (horses, I suppose) recover in a week or ten days, whilst others linger for several weeks or months, especially if the acute form gives way to the chronic: and the older the horse the more acute will be the disease.

Three of the cases and their surroundings are individually described, in each of which the surroundings were very insanitary.

Case I.—Barn low, housed forty head of mules and horses, no special means of ventilation, ceiling covered with frost, which had been gradually melting and dropping down upon the stock, all of which were more or less wet. Fed on millet in good condition, cut when about one-fifth headed out, with bran, some receiving one feed of oats per day, and during the day the stock in a yard having access to wheat straw. This case was diagnosed as rheumatism, and treated with sodium salicylate two ounces, aqua eight ounces; one ounce of this every six hours. This mare entirely recovered in ten days, and when due gave birth to a healthy foal.

Case II.—Mare due to foal. First indication in left hind leg, which increased in severity; afterwards all the joints of the left hind leg became affected, the hock stifle and fetlock being especially tender to the touch. She was put in slings, and during her endeavours to stand ruptured the flexor pedis perforans tendon of the right hind foot, from its insation, and was consequently destroyed.

Surroundings.—Barn contained carriage room, one box and three single stalls, ventilation poor, ceiling covered with frost, which was melting and dropping on the stock. Floor so wet that bedding was wet all the time.

Case III.—Aged mare three weeks foaled, foal healthy (at time of report seven months old).

Surroundings—Ventilation imperfect, banked barn, walls dry. Fed on millet two-thirds headed out, oats three quarts. Animal lying down, endeavoured to get her up by use of slings, would not bear any weight on hind legs; pain upon pressure of any of the joints of hind legs, and also gluteal region. Temperature 140° F., respiration 20, pulse 70, rigors and distressed appearance.

After thirty hours' treatment the attendant attempted to raise the mare, but let her drop, killing her instantly. During struggle she ruptured the *gastro-*

neum externus from its insertion, allowing the summit of the *os calcis* to protrude through the skin.

Post-Mortem Appearances.—The appearances in both hind legs were essentially the same. The insertion of the *abductor magnus* was torn from its attachment and carried with it particles of bone.

The portion of bone which was removed was nearly circular in shape, a little pointed at its upper extremity, and in all covered about $1\frac{1}{2}$ square inches. The region of the *popliteus* was torn loose, and also carried with it a small particles of bone. The bone exposed was somewhat softened, and it was also severed from its attachment to the capsular ligament of the stifle joint. The capsular ligament of the patella showed marked infiltrations, with a diminished supply of synovial fluid; in fact, the absence of synovial fluid was well marked in all the joints, there being scarcely a trace left in some of them. The insertion of the *triceps abductor femoris*, the *tensor fascia lata* and *quadriceps cruralis* were also torn loose from the bone, and, as was the case with the other muscles, carried with them particles of bone. The bursa at the side of the hock, through which the tendon of the *peroneus* muscle passed, was dry, and contained scarcely a trace of the synovial fluid. The parts adhered to each other, showing that the condition had existed for some little time previous to death.

THE LIVE STOCK JOURNAL ALMANACK *for* 1895. (London: Vinton & Co.)

Breeders and owners of live stock in this country and in our agricultural colonies are now well aware of what they may expect to find in this excellent annual, and in the issue before us they will not be disappointed. It is one of the best with which the enterprising firm of Vinton & Co. have favoured the public, and all the special articles it contains are of interest and value to those for whom they were written, some being particularly noteworthy. These articles and the great quantity of additional information which renders this periodical so useful, combine to make the almanack for 1895 indispensable to everyone who has to do with live stock of any kind. There is nothing better produced anywhere for the price.

Legal News.

THE TRIMMING OF DOGS' EARS.—Eight summonses taken out by the Society for the Prevention of Cruelty to Animals against dog-fanciers and dealers for cruelty to certain dogs by cutting their ears, came on for hearing before Mr. Bushby, at Worship Street.—The defendants were William Storer, of Dunstan Street, Haggerston; Robert Carling, and Mary, his wife, of Pritchard's Row; and Harry Cooper, of Gloucester Street, Hackney Road.—Mr. Colam, barrister, conducted the prosecution, and Mr. Speechley, solicitor, defended.—The summonses having reference to different dates and different animals, it was decided to take them separately.—The case against the defendants Carling and Harry Cooper was first taken, Mr. Colam saying that the person who had laid the information was not in attendance, but he would be able to prove his case against the defendants from admissions by the defendants that the Carlings had carried on the trade and practice for a long time, and by Cooper that he had caused it to be done; and by the evidence of the veterinary surgeon who witnessed the suffering of the animal. The practice, he said, was, of course, carried on in dark places, and he understood that in this instance the act of cruelty was done in a Radical Club where Cooper was employed.—A discussion took place as to whether the informant was not necessary as a witness, and it was arranged that the hearing should be adjourned.—*Morning Advertiser.*

PROSECUTION OF A VETERINARY SURGEON.—At the Matlock police-court

Isaac Alken Bartlet, practising as a veterinary surgeon at Wirksworth, was summoned for falsely representing himself as a member of the Royal College of Veterinary Surgeons, London and Edinburgh.—Defendant pleaded guilty through neglect.—Mr. Middleton, of Chesterfield, and Inspector Yates, Derby, of the Royal Society for the Prevention of Cruelty to Animals, prosecuted; and it appeared that on the 12th of September Jabez Hatfield, of Wirksworth, was prosecuted at the Matlock Sessions for cruelty to a horse, and the defendant gave a certificate that the animal was in a workable state, and signed the document "M.R.C.V.S., L. and E." For the prosecution the list of the Royal College for that year was produced, showing that the defendant was not on the register, and Mr. Middleton maintained that he had no right even to call himself a veterinary surgeon.—For the defence Bartlett put in a list of veterinary surgeons in the country, dated 1883, signed by Lord Willoughby de Broke, which proved that when he resided in Warwickshire he was on the list. He said all veterinary surgeons practising before the passing of the 1881 Act of Parliament were put on as existing practitioners, and he applied and was registered.—The prosecution said they could not explain this muddle, but it would be inquired into. Defendant had still infringed the Act by declaring himself a member.—The Bench imposed a fine of 10s., and the costs 15s., and said they had mitigated the penalty in view of the seeming inaccuracy of the two registers.—*Derbyshire Courier.*

A Charge Dismissed.—Mr. Henry Martin, a farmer and well-known breeder of horses, of Peter Hall, Coventry, appeared to an adjourned summons, taken out at the instance of the Royal Society for the Prevention of Cruelty to Animals, charging him with having caused unnecessary pain and suffering to a number of sheep.—Mr. Colam, barrister, prosecuted, and Mr. Arthur Kent, solicitor, defended.—It appeared from the evidence that some 400 sheep arrived by steamer from Scotland at Wapping, and upon arrival there it was discovered that 70 were dead, whilst the others were in a very bad condition owing to the rough voyage. A large number were conveyed to the Bricklayers' Arms station of the South-Eastern Railway, and many of them despatched to Lydd at the order of the defendant. Upon arriving there they were, according to the evidence of a farmer named Levitt, who resides at Ashdown, in a very bad state. Eight of them were in a dying condition, whilst many were bruised and utterly unable to stand.—After hearing the evidence of the man Levitt and a veterinary surgeon named Fordham, Mr. Fenwick animadverted upon the conduct of the defendant, whereupon Mr. Stanley, the veterinary surgeon of the court, stepped into the witness-box, and said that although he was there to give evidence for the Court upon a charge of cruelty to a horse, he would like to say, after having heard the evidence in this case, that he had known the defendant for many years, and that under the circumstances, as an owner of sheep himself, he (witness) would have done exactly as the defendant had done. It would have been most cruel to have kept these small Scotch sheep penned up in London whilst they were recovering from the effects of the voyage. They would have "sweated" terribly, and the best course to adopt was to despatch them, as the defendant had done, to the country.—For the prosecution, Professor Pritchard, the ex-President of the Veterinary College, and Dr. Ralph Cox were called, both of whom were of opinion that it was cruelty to despatch the sheep in the condition they arrived at the wharf.—For the defence Mr. Hunting, the present President of the Veterinary College, and a farmer, who was also a justice of the peace, and Mr. Stanley, veterinary surgeon, were called, and their evidence was to the effect that the defendant had acted in the most humane manner under the circumstances.—Mr. Fenwick said he thought the case a most proper one for investigation, and he believed that the defendant, although acting under an error of judgment, *bona*

fide believed that the course he had adopted was the best. The charge would therefore be dismissed.

VETERINARY SURGEONS AND THEIR RESPONSIBILITIES.—At the Lambeth Police Court recently Mr. Hopkins had before him a case of considerable interest to veterinary surgeons. Mr. George R. James, a veterinary surgeon, of Manor Road, South Norwood, was summoned by Inspector Marsh, on behalf of the Royal Society for the Prevention of Cruelty to Animals, for causing a horse to be ill-treated. Mr. Colam, barrister, appeared to support the summons, and Mr. Poole, solicitor, defended. Mr. Colam said the case arose out of one which recently came before the Court. The defendant then got into the box and said he took the entire responsibility of the animal being worked, that it was worked under his authority, and that he was responsible. Upon that statement his worship said if that were so he could not hold the defendants who were then before the Court liable, and dismissed the summonses. In spite of the proceedings on that occasion the society found that the animal was still being worked, and the present defendant was seen by some of the society's officers. He was asked whether the horse was still being worked, and he replied that it was, and that it would be, in spite of the society. Under these circumstances the society, being advised that this animal was quite unfit for work, felt bound to take these proceedings. Evidence in support of the summonses was given by Inspectors Marsh and Rogers, who spoke as to some conversation they had with the defendant.—Mr. Israel Print, veterinary surgeon, who saw the horse on the 17th of October, the day on which it was stopped by the society's officer, said it was very old and in poor condition. It was weak on both fore limbs, and was lame on the off fore.—Maurice G. Brierley, a Fellow of the College of Veterinary Surgeons, who saw the horse on the 27th of October, gave corroborative evidence, and said he considered the animal quite unfit for work.—Professor Pritchard, an ex-president of the College of Veterinary Surgeons, who saw the horse on the same day as the last witness, expressed the opinion that to work it would cause it pain.—By his Worship: The horse was not fit for any kind of work.—No witnesses were called for the defence, but Mr. Poole submitted that no case had been made out against the defendant. Differences of opinion existed not only amongst the veterinary surgeons, but amongst medical men, amongst lawyers, and amongst all trades and professions. The defendant held the opinion that this horse was fit for work, and, as a matter of fact, it was at work that day.—Mr. Hopkins remarked that he must decide against the defendant upon the veterinary testimony. When horses were brought to that court in a state which would lead one to believe they ought not to be worked, the people who worked them frequently called a veterinary surgeon, and the veterinary surgeon constantly said, "This horse is worked by my authority." He (Mr. Hopkins) did not know what other magistrates did, but he never felt able to convict persons of cruelty when a veterinary surgeon took that responsibility upon himself. Mr. James had taken that responsibility, and, in spite of the suggestion by the society that this was a horse which should not be worked, it was, by his advice, still at work. The society had brought overwhelming veterinary testimony against him, and the defendant would have to pay a penalty of 20s. and £3 3s. costs.—*Morning Advertiser.*

A SOUTHPORT DOCTOR AND HIS HORSES.—At the Southport County Court, before his honour Judge Collier, for the third time, a case in which Dr. Edward Ball, of 2, Part Street, Southport, claimed damages from Thomas Baxendale, farmer, of Crossens, for loss alleged to have been sustained through the negligence of the defendant in regard to two horses belonging to the plaintiff, came on for hearing. The plaintiff's claim, it will be remembered, includes damage for negligence in regard to the keep of his two colts,

which he estimates at £45, professional attendance and medicine supplied by the plaintiff to the defendant and his family £2 15s., and manure 16s. 9d.; total amount of claim, £48 11s. 9d. The defendant counterclaims for £17 1s. 5d. The plaintiff allowed £2 0s. 2d. of this, bringing down the amount of his claim to £46 11s. 7d. The items in the counterclaim include—Grazing, housing, and feeding, £22 18s. 6d.; breaking of horse, £5; damage to harness and trap, £1 2s. 9d.; and shoeing, 3s. 8d.—Mr. A. G. Steel, barrister, again appeared for the plaintiff, and Mr. S. Brighouse for the defendant. When the Court adjourned last week the case for the plaintiff was just concluded. On Tuesday, Mr. Brighouse, in his opening statement for the defence, said that the plaintiff alleged breach of contract, wrongful usage, and neglect on the part of the defendant. When called upon to give further particulars of his claim, he (Dr. Ball) said that the defendant had neglected to feed and take care of the colts, allowing them to become weak, ill, and emaciated, and one to remain wounded and injured, whereby the colts were reduced in value, and the plaintiff was put to medical expense. On behalf of the defendant, he contended that the only bargain was that the colts had to go out for a winter's run, and that on his (the defendant's) own suggestion if it were a cold and wet night, they should be put up and should have a little hay. Nothing was said as to giving them a feed of oats, and he should not only prove that, but that the price then agreed upon could not cover anything else except what was known as a winter's run. Horses were sent out in two ways and at two seasons of the year. The first was from March to September or October, when they were sent out "to grass," and then from that time until the period came round again they were sent out for their winter's run. The colts in question were sent out for the winter's run. "Charles I." was purchased at the Ormskirk September fair in 1892, and it was taken by the defendant for a winter's run, remaining with him until September, 1893. During that time no complaint was made by Dr. Ball as to the treatment of the animal. On the 3rd October Mr. Kershaw went to visit it for the purpose of insurance, and he was not able to say that its condition was otherwise than it should have been His first contention, therefore, was that whatever the result of that trial might be, Mr. Baxendale was entitled, so far as "Charles I." was concerned, to receive 5s. a week from September, 1892, to October 3rd, 1893. As to "Charles II.," it was purchased at the Ormskirk fair in 1893, and, according to the plaintiff's statement, was three parts Arab bred. It was very important to recollect that. This colt was not intended for the cart, or for agricultural purposes, but for the carriage, it having showy points about it. In regard to this colt, Dr. Ball saw Mr. Baxendale, and no bargain was made about it. It was sent out to grass simply by this conversation:—Dr. Ball said: "I have purchased another colt, I am sending it to you." Mr. Baxendale replied, "All right," and the colt was sent. Nothing was said as to what should be done, or the price to be paid at that time. It seemed to have been implied that "Charles II." should go at the same charge as "Charles I." From then up to February, when the colts were brought back, they were not seen by Dr. Ball or any of his men, and he thought it was quite evident that the plaintiff was satisfied with the treatment they had received, and was not even suspicious that Mr. Baxendale would not treat them properly. He should prove that Mr. Baxendale had not only ample grass for the two colts and his own, but for several others which he had agreed to take to agist. Although evidence had been given by the plaintiff as to how these colts looked when returned, he should prove by men better versed in what happened to horses sent out in the winter than some of the witnesses for the plaintiff that their condition was only what could be expected from sending them out during the winter. His Honour would recollect that one of the plaintiff's witnesses, Mr.

Oldfield, in cross-examination, rather facetiously, but none the less truly, said that if he wanted to starve a horse, he would starve it at home, rather than send it to grass. Anyone who knew anything about horses knew that to send one out for a winter's run was an economical way of keeping the horse alive. When it came home it was thinner, had a shaggy coat, and suffered more or less from the inclemency of the weather. "Charles II.," however, came home on the 27th February, and died on the 1st May. It was not then hinted that "Charles II." had been badly treated or starved. It was not until 27th June, seven days before the case was entered into the court, on the very day in fact when the defendant suggested a settlement of accounts, that Dr. Ball mentioned that the colt had been starved. In the statement of claim to the insurance company starvation was not mentioned by the plaintiff, and in the telegram to the company by Mr. Kershaw on the death of the animal no mention was made of this. One would have thought that if Dr. Ball had had any idea of starvation he would have put it into his claim, because to keep back something which he knew should be disclosed was just as bad as putting something in which he knew to be false. And if Mr. Kershaw, who was the veterinary surgeon for the plaintiff as well as the society, believed that the horse had died from the effects of starvation he had no right to send the telegram he did. He should be able to prove that Mr. Kershaw's certificate of the 2nd May gave the true cause of death. Mr. Baxendale would satisfy his Honour that the colt "Charles II." did not die as the result of ill-treatment, neglect, or starvation at his hands. It would be proved that the defendant treated the colt as if it were his own property, and that it died from inflammation of the kidneys, brought about in the way set out in Mr. Kershaw's certificate. What Mr. Kershaw might have said in evidence, he asked his Honour to say, that when he gave that certificate on the 2nd May he spoke the truth about the cause of death. He submitted that if the cause of death was that stated in the certificate, Mr. Baxendale ought not to be found liable for one penny with respect to "Charles II." On the 21st April the colt was driven to Scarisbrick in a dogcart with three persons, and there was a smash. His contention was that the horse received such a shock as to set up the disease from which it died. He commented on the fact that Dr. Ball gave £22, and that he had received £26 from the insurance company.—Mr. Steel: That has nothing whatever to do with it. The amount of money paid by the company cannot be taken into consideration.—Mr. Brighouse: I only say that he has received the money, and now he wants the defendant to pay him a sum of £20, although in the first place he only gave £22 for the colt. Continuing, Mr. Brighouse said he would not address the court on the subject of damages with regard to "Charles II." His contention was that the defendant carried out his contract, and that the colt died from causes over which he had no control; causes other than those stated by the learned counsel and his client. There were two complaints about "Charles II." The first was that the defendant starved it; the second that he injured it. "Charles I." was alive; the horse could be seen, and had been seen by Mr. Platt, a veterinary surgeon of Southport. The argument he made use of with regard to "Charles II.," so far as starvation was concerned, applied to "Charles I." There was a bargain, and the defendant carried it out. Neither Dr. Ball nor anybody who knew anything about horses, could possibly expect a horse that went out for a winter's run to look as well and nice in its coat as when it went. With respect to the accident, he ventured to contend, on behalf of the defendant, that in the absence of any agreement to the contrary, he could not possibly be liable for injuries that the colt received accidentally. Dr. Ball's statement was that the colt was injured; he was unable to say how, or where. Mr. Baxendale only found that the animal was injured on the day that it was taken away, otherwise he would have informed Dr. Ball. He (the

defendant) was totally ignorant then, and was now, as to how the colt came by its injuries. With respect to the injury to "Charles I.," his contention would be that, unless it was proved to his honour's satisfaction that the colt was injured by the defendant's neglect, he was not liable.—William Woods, veterinary surgeon, Wigan (a member of the board of examiners for the college), was the first witness called. He said that he had some experience of nephritis in horses, although it was rather a rare disease.—Mr. Brighouse: If a horse had been suffering from chronic inflammation of the kidneys for two months do you think that nine days before its death it would be able to go a journey of eight miles without showing any indication that it was suffering from the disease?—Witness: No, the horse would scarcely be able to drag himself along.—Assuming the same facts that I put to you a moment ago, would the horse, seven days before its death, be able to go a distance of eight miles in double harness, with an eleven cwt. wagonette?—Most decidedly not, assuming the cause of death to be chronic inflammation of the kidneys, because the symptoms of that disease would be exceeding weakness.—The evidence previously given by Mr. A. J. Kershaw as to the results of the *post-mortem* examination made on "Charles II." having been read over by his honour, Mr. Brighouse asked the witness whether, having heard the symptoms described, he was of opinion that they were consistent with chronic or acute inflammation of the kidneys.—Witness: Acute inflammation distinctly. Continuing, he said that kidney disease might be due to (1) either injury or strain, (2) to some other disease, or (3) to a severe chill. He had known kidney affections from these three causes, but he never heard starvation suggested as a cause, and there were very strong reasons why it was unlikely that it should be a cause unless accompanied by disease of other organs. Supposing that when a horse was being broken in to harness it was driven a distance of 18 miles, and then, having sweated considerably, was allowed to stand still and got a chill, it might set up acute inflammation of the kidneys. Bucking or jumping about during breaking was another accepted cause. In his opinion the probable cause of the death of "Charles II." was acute nephritis, of which he had given them the accepted causes.—Mr. Steel: Supposing a horse had received an injury nine days before death, when would you expect that the first symptoms of injury or disease would appear in that horse?—Witness: Within a few hours of the injury.—Mr. James M'Laren, veterinary surgeon, of Liverpool, spoke to making a *post-mortem* examination of "Charles II." in conjunction with Mr. Kershaw. Both Dr. Ball and Mr. Kershaw had mentioned to him about the colt meeting with an accident. Dr. Ball said that from the symptoms exhibited by the colt he formed the conclusion that there was some disease of the kidneys, and prior to the death of the animal he had given it some gin.—Mr. Steel: Assuming that there had been some injury, strain, or blow on the 21st April which set up acute nephritis, would not you expect some serious symptoms within 24 hours?—Witness: I would expect some symptoms.—Would you not expect in a case of acute nephritis which was going to cause death that death would ensue in 60 hours?—Hardly in 60 hours; give it a bit longer, say about three days.—By Mr. Brighouse: In symptoms of chronic nephritis they had other organs affected.—Mr. James Platt, veterinary surgeon, of Southport, said that on October 26th of this year he saw "Charles I." on the premises of Dr. Ball, and then he found the horse in fair condition. He should not expect a three-quarter bred Arab horse to stand a winter's run so well as a cart-horse bred animal; he should expect the former to come back very poor.—Henry Hewitson, veterinary surgeon, and assistant to Mr. Platt, was called, but was not examined at length.—The defendants, Miss Jane Baxendale, Robert Wareing, John Riding, and James Ball having given evidence, the case was again adjourned until the next court day.

Notes and News.

KICKED BY A HORSE.—Mr. Frederick Garside, veterinary surgeon, met with an accident recently whilst examining a young colt belonging to Mrs. Winterbottom, of the "Ram." The animal lashed out with its hind leg, and caught Mr. Garside on the cheek, which it cut very badly. Medical assistance was called in and the wound attended to.—*Cheshire Herald.*

FOOT-AND-MOUTH disease has re-appeared in East Kent. Cattle suffering from the disease were discovered in Ashford market. It transpired that the animals came from Bristol. The market has been closed, the removal of all cattle, pigs, or sheep from the market has been prohibited, and all persons leaving the market have been ordered to dip their boots in a solution of carbolic acid.

HORSES IN FRANCE.—The *Monde Illustré* says:—France possesses 3,000,000 horses with a total value of 1,361,000,000 francs or about £56,708,333. Reckoning the population at 36,000,000, this gives 8 horses to every 100. The number in Germany is only $7\frac{1}{2}$ per cent. The French army uses 140,000 to 150,000 and 700,000 to 800,000 for street traffic, or not quite 1,000,000 together. About 2,000,000 are used for agricultural purposes. Recent statistics show the rapid increase in the number of horses in towns, which is greater than that of the population; 120,000 are used in Paris, as against 70,000 in 1870.

THE FAUNA OF DEAD BODIES.—The eminent French veterinary surgeon, M. Mégnin, in a work presented to the Paris Academy of Medicine, on the fauna of dead bodies, indicates the importance of these entomological studies with regard to medical jurisprudence. The insects appear in relays according to the period of putrefaction. The first which appears is the musca curtonea and callophora. It is present on dead bodies buried in the most careful manner. The eighth group, coleoptera, are found in dead bodies which have been buried four years. The dust that remains after the decomposition of the body is really the excreta of these animals.

ONE of the questions discussed before the Paris Academy of Medicine recently was, our correspondent says: Should consumptives and other persons be encouraged to keep dogs? Dr. Megnin, formerly a veterinary surgeon in the army, sent in a paper to show they should not. The dog is just as liable as his master to be infected by tuberculosis, and to spread it. Dr. Megnin had under his care many canine consumptives. They were of the lap-dog species, and it is said caught the malady from their masters or mistresses. Dogs, said Dr. Megnin, were liable to many sorts of septicæmia and to scurvy. The dog, so teachable, was not given any education of the palate, but was allowed to eat infectious garbage and nameless filth. This alone would account for its liability to rabies. The dog by intelligent care in its breeding, education, and hygiene might be made the paragon of four-footed beings, and the worthy friend and auxiliary of intelligent human beings. Dogs reflected the moral qualities and the vices of their masters. Wherever manners were mild, dogs ceased to be ferocious. In conclusion the author of the paper proposed the foundation of a chair for canine anatomy and diseases.—*Daily News.*

TUBERCULOSIS continues to be discussed in many quarters. Until the Royal Commission on the subject appear, discussions are of course more or less of an academic nature, but the Commission has now sat for two or three years, and though Principal Williams, of Edinburgh, believes that its report "is to be out directly," there is every excuse for the motion passed last week by the Scottish Chamber of Agriculture asking the Commission to issue their report without further delay. Principal Williams, who has a wide knowledge of the subject, supported the motion. He pointed out that it was stated that

in the city of Edinburgh 25 per cent. of the cattle are tuberculous, and added that, in his opinion, that estimate was too low. He alluded to the fact that all authorities were agreed upon this—that the tendency to tuberculosis is certainly hereditary, and that the hereditary tendency is greatest amongst highly-bred cattle—which we take to mean cattle more or less in-bred. Pasture became affected with the disease from being grazed with tuberculous cattle ; rabbits died of the disease, and the grass was further affected, so that, the Professor added, one need not wonder at the increase in the disease during comparatively recent years.—*Fife Herald.*

ERRATA.

THE following errors and misprints occur in our last issue :—

At p. 414, 12 lines from bottom, for Machydont *read* Brachydont ;
At pp. 416-17, for carnapial, repeated several times, *read* carnassial ;
At p. 417, line 4, for Corvidæ *read* Canidæ ;
At p. 419, line 16, for Swinæ *read* Suinæ.

Correspondence.

THE JUBILEE MEMORIAL.

AT a special meeting of the Council of the Royal College of Veterinary Surgeons held on November 28th, Mr. R. C. Trigger presented the report of a meeting of the Jubilee Memorial Committee at which he presided, the following other members being present :—Mr. W. Hunting, Professor Brown, C.B., Professors Williams and Penberthy, Messrs. J. Fraser, G. Elphick, H. Kidd, E. Faulkner, F. C. Mahon, C. Hartley, A. W. Mason, A. C. Cope, J. Villar, A. W. Wheatley, J. F. Simpson, J.P., W. J. Mulvey, F. W. Wragg, J. A. W. Dollar, and the Hon. Secretary (Professor Macqueen).

A letter was read from Mr. Thos. Greaves expressing regret at his inability to attend, and promising a donation. After due consideration the following resolutions were adopted :—(1.) That the memorial should take the form of a scholarship or bursary in recognition of the services of Messrs. Turner, Goodwin, Mayer, Dick, Sewell, Spooner, and Simonds, who obtained the first charter for the Royal College of Veterinary Surgeons in 1844. (2.) That a memorial tablet bearing the dates 1844–94, and the names of those gentlemen be placed within the College building. (3.) That the scholarship or bursary be applied as recommended by this committee, subject to confirmation by the Council of the College. (4.) That to carry out the above-named objects an appeal for donations be made to the profession generally, and to the various veterinary medical societies. (5.) That the editors of the various veterinary journals be asked to call the attention of the profession to the same. (6.) That the subscription be opened and the names of subscribers published in the veterinary periodicals ; and (7.) That subscriptions be unlimited in amount. Mr. Trigger added that the subscription list had been headed by a contribution of £50 from the Council of the Royal College of Veterinary Surgeons, and a like sum from the Midland Counties Veterinary Society. The report was received and adopted.

TO THE VETERINARY PROFESSION.

GENTLEMEN,—May I venture to call your attention to the proposed Jubilee Memorial now before you, and ask for your cordial co-operation and support to ensure its success. The scheme, as submitted to, and adopted by the Council, will be found in the published reports of the last Council meeting. It will, I hope and believe, commend itself to every member of the profession.

Bis dat qui cito dat—"He gives twice who gives quickly," was never more applicable than to the present Memorial. Prompt action will ensure the foundation of the scholarship at least a year earlier than if the matter were allowed to drag. Therefore, let our action be sharp, short and decisive, and let us vie with one another, not as to who shall give most largely, but most promptly, and let our first published list of subscribers be one worthy of the cause.

We do not wish or expect large subscriptions. We appeal to the great body of the profession, and simply remind them, that, except for the action of the men of 1844, whose good work we propose to recognise by a lasting Memorial, we should not have been a profession at all, or had any rights or privileges. If every man will send something, according to his means, success will be assured.

Gentlemen, the Jubilee babe is born, and his name, we hope, will be Scholarship. He has been most cordially received whenever he has as yet appeared. If every member of the profession will stand "Godfather," and send a small donation to ensure him a vigorous youth, he will then attain a perpetual old age, and keep green, long after the present generation has passed away, the names of Turner, Goodwin, Mayer, Dick, Sewell, Spooner, and Simonds, who incorporated our noble profession in 1844.—I am, gentlemen, your obedient servant,

ROBT. C. TRIGGER,
Chairman of Jubilee Memorial Committee.

Donations to FRANK W. WRAGG, ESQ., Veterinary Surgeon, Church Lane, Whitechapel, London.

SPRATT'S ALMANACK.

DEAR SIR,—We have pleasure in sending you herewith a copy of our calendar for the coming year. You will notice the designs are by artist specialists on prize dogs and poultry subjects. The information at back of each picture is extremely valuable to all interested in dogs and poultry. We can only guarantee posting a copy to your readers if they at once send us a stamp for postage, marking the envelope, "Almanack Department."—Yours respectfully,

SPRATT'S PATENT, LIMITED.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Capt. Moore, A.V.D., W. Littlewood, Cairo; Capt. J. A. Nunn, A.V.D., "Spratt's Patent," Chas. Blackhurst, M.R.C.V.S., J. Lund, M.R.C.V.S., E. Wallis Hoare, F.R.C.V.S., R. C. Trigger, F.R.C.V.S., Sam. Locke, F.R.C.V.S.

BOOKS AND PAMPHLETS: "Manual of Veterinary Micro-Biology," translated by *R. H. Dinwiddie*, Cincinnatti; *W. S. Department of Agriculture*, Investigations—Bovine Tuberculosis.

JOURNALS, ETC.: *Modern Medicine and Bacteriological Review, The Horticultural Review, American Veterinary Review.*

A NEW VETERINARY TEXT-BOOK.

As we were putting the January number of this JOURNAL to Press, a copy of Mr. E. Wallis Hoare's new "Manual of Veterinary Therapeutics and Pharmacology" reached us from the publishers, Messrs. Bailliere, Tindall & Cox. For the present we can do no more than announce its appearance, reserving a detailed criticism and description for a future occasion.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

FEBRUARY, 1895.

LATHYRUS SATIVUS, THE VETCHLING.

BY R. STEWART MCDOUGALL, M.A., B.SC.

(*Continued from page* 11.)

Effects of L. sativus on other animals.

Swine.—Paralysis and spasm. In the herbal mentioned earlier I find it stated that swine fattened on the meal lost the use of their hind limbs, but grew very fat lying on the ground.

Cattle.—Experimentally the records are too meagre to warrant any hard and fast statement, for while one breeder fed the seeds ground and scalded, in the proportion of three pounds at a time to fattened bullocks and they did well, I have heard of cases where the seeds were blamed for injuring milch cows.

Sheep have been fed on small quantities without harm.

As to other animals, Watt quotes Don thus:—"Pigeons lose their power of flight by feeding on the seed, especially when young. Poultry will not readily eat it, but geese eat it without apparent damage."

Theories as to the Poisonous Principle.

1st. A volatile alkaloid not existing in the free state, but produced by some proteid ferment, whose action can be destroyed by heat. The presence of ferments in the vegetable world is now generally admitted. Such are present in very minute quantities, and they are only active within well defined ranges of temperature, being killed when exposed to a high temperature, say, on boiling.

2nd. May be due to an albumose or globulin. If this were so, as suggested by heat destroying the poisonous principle, we could suggest an analagous case where, in Abrus precatorius, another leguminous plant with poisonous seeds, the poisonous action is destroyed by boiling. The seeds of this plant cause weakness and rapid breathing, but no paralysis. The poisonous effect is gradually lessened as the temperature is raised from 50° C. to 70° C., until at 80° C. the activity is almost entirely reduced. Watt quotes Astier as having isolated an alkaloid which displays the poisonous properties of the seed. So far I have not been able to trace the "paper" containing Astier's results, but at present I am following with much interest a series of analyses and researches being conducted by Mr. Irvine of Granton. That these will prove very interesting is certain, but at present we will not say more than that experiments so far have not in his hands revealed the presence of an alkaloid such as Astier mentions, but rather tend to suggest the presence of some albumose.

3rd. Poisoning by organisms. One observer made some cultivations from L. sativus seeds similar to those fed to a suffering horse in Liverpool.

These cultivations showed a bacillus resembling that of the mouse septicæmia, but as the seeds were very dirty, covered with rodent excrement, the bacillus of the cultivations proves nothing. As the washed seeds showed no such organisms on being experimented with, the bacillus theory is no longer upheld.

Whatever the poisonous principle may be, we hope that those now working at the seeds will succeed in demonstrating it, and pointing out how the seeds, otherwise nutritious and cheap, can be used with safety. While the large light-coloured seeds (L. sativus weisse) come to this country from the Baltic ports, large quantities of the small dark-coloured seeds (one Liverpool merchant in the Bristol Tramways Company case stated that he had sold 33,950 quarters since July 1890) come to us from India, in the shape of ballast. Analysis shows them to be nutritious, while as regards cheapness Mr. Challenger calculated that by being able to use without fear of evil effects the L. sativus seeds he would save as regards feed in his stud of 800 horses a sum of £300 per annum.

Before passing on to review some of the better known leguminous plants, I would like to make a few remarks concerning *Cicer arietinum*, the chickpea, or common gram, a plant which is erroneously mentioned as having, on being

fed to horses, caused symptoms of poisoning similar to L sativus. Corresponding to some extent in distribution with L. sativus, *Cicer* is well known in Southern Europe, while upwards of 50 names in the vernacular testify to its popularity in India.

It is an annual, varying in height from one to two feet, has several pairs of oval leaflets with toothed edges, and generally a terminal leaflet. The flowers are whitish or rose-coloured, and there are, just as in L. sativus, different varieties of, seeds, some dark-red coloured and some paler. Duthie and Fuller, in their "Field and Garden Crops of India," mention a very large white-grained kind grown as a curiosity. No matter the colour, the seeds are easily distinguished from those of L. sativus, as they simulate, often very successfully, the appearance of a ram's head; hence the specific name of the plant *arietinum* (aries, a ram).

CHICK PEA *(Cicer Arietinum).*

Uses of Cicer arietinum.—(*a*) As food for man: Mixed with wheat and barley in many districts of India, it forms the principal crop of the poorer classes. The seeds are prepared for food in different ways; sometimes ground into meal for cakes and puddings, or, according to Lindley and Moore, used as a substitute for coffee, and again as common in Paris for soups. The roasted seeds may be mixed with sugar and other ingredients, the whole forming a well-known sweetmeat in India; or again, the roasted seeds are carried to be used as a sustaining food on long journeys. The vegetable is known as a medicine in India, although its too frequent use may induce calculi in the bladder in persons predisposed to the disease, owing to the large amount of oxalic acid which is exuded from glandular hairs on leaf and stem. Drury tells

us, in addition, that this exudation is collected by the natives and used in their curries instead of vinegar. According to Moore, "the boots of a person walking through a dewy grain field will be entirely destroyed by the pungency of the acid given out by the leaves."

(*b*) As food for cattle and horses: The plant has considerable use as a fodder for cattle, which is often not very palatable owing to its bitter taste, and Duthie speaks of its being injurious as fodder to milch cows. For horses Watt strongly recommends the importation of the seeds on to Britain, the properties of albuminoids to starch (21 : 59) being much better balanced than in our ordinary horse feeds. He suggests that oats and grain, or Indian corn and grain, would be found to be much more nutritious and strength-giving than the ordinary English diet, "which contains an excessive amount of starch." Without dwelling on this opinion, I think it may be safely stated that any poisoning effects said to follow the use of its seeds as a feed for horses are quite imaginary. I have made a number of inquiries of gentlemen who have had a large experience in India as veterinary surgeons, both military men and civilians, and I find a unanimous testimony to the value of Cicer arietinum as a horse food.

There are two other plants to which the name "gram" is sometimes applied, and which may thus be confused with gram proper, viz., "Phaseolus mungo," or green gram, and Dolichos biflorus, or horse gram. The former, with several varieties varying in habit of plant and colour and size of seed, has a wide cultivation. Its seeds are eaten by rich and poor alike, while the stalks and leaves are given to cattle. Dolichos biflorus, horse gram, found wild and cultivated, is described in Church, where its haulms are said to be a good fodder, but the continued use of its seeds to cause œdematous swellings.

To return to the genus Lathyrus, I want to note four species, three at least of which may be poisonous. L. Clymenum, a species belonging to the Levant region (both Europe and Africa), and also said to be found in Madeira. Its leaflets, 9 to 14 in a leaf, are very much shorter than those of L. sativus, and are blunt at the point. The flowers are in small racemes. There is another species found in Italy, and very closely allied to clymenum, namely, L. alatus—so closely allied that it is sometimes sunk in the last species, and by some authorities is spoken of as synonymous. On the continent there are records of these two being injurious

also. Then there is L. cicera, with flat pods, a native of South Europe and Northern Africa, and known in these regions as a fodder plant. Its seeds, when used in quantities, produce harmful results; *e.g.*, in France there are records of its use by human beings being followed by paralysis, and an epidemic of paralysis in a tribe of Arabs in Algiers, some 12 years ago, was traced by French experts to a similar cause. The brown, smooth seeds of L. cicera can by a casual observer be very easily mistaken for those of the Indian variety of L. sativus; indeed, I know of their having been shown in an Exhibition for several months as those of L. sativus, and without remark.

The last Lathyrus I will mention is *Lathyrus aphaca*, the yellow vetchling cultivated in different parts of India as a fodder plant for cattle, and also found in this country, being not uncommon in the eastern and southern counties of England. The seeds and pods have been known to be used in soup in the young state, and without harm resulting; but the ripe seeds are narcotic, and cause sickness and headache. In this connection one might also notice the haricot bean (Phaseolus vulgaris), whose unripe pods are much in use as a green vegetable, as are also those of the scarlet runner, Phaseolus multiflorus. The ripe seeds have been known to cause illness, and some time ago—in Leith, I think—several persons suffered from partaking of the raw seeds. The bad effects seem to follow only when the seeds are eaten raw, as when cooked no harm has followed.

The Lupins.—None of these are natives of Britain, but several species are well-known in Southern Europe and in some parts of Asia. One of the best known is Lupinus albus, grown for fodder, or the crop may be ploughed in as manure. Its seeds are eaten by man and also by cattle, after steeping and boiling to remove the bitter taste. A bitter principle, probably alkaloidal, seems to be the characteristic of the various species of Lupin, and we have certain knowledge in the case of two, at any rate, viz., L. albus and L. angustifolius. From the seeds of L. albus an alkaloid has been isolated, identical with an alkaloid from the seeds of Lupinus angustifolius.

The alkaloid is called Lupanine. Bitter to the taste it is said not to be hurtful to man, but it has been shown experimentally to be poisonous to frogs.

Sarothamnus scoparius. Broom.—This plant, well-known in the Pharmacopœia as diuretic and cathartic, has had isolated from it a volatile liquid alkaloid called Spartene,

which is said to have narcotic properties. One writer speaks of sheep eating the broom pods and suffering from a kind of intoxication, and mentions, too, an old use of the broom tops in Wales as communicating a bitter flavour to beer. But we need not go so far afield, for those who know their Allan Ramsay will remember his elegy on Maggy of Johnstoun. Last century this Maggy Johnstoun kept an inn near Edinburgh, which was a favourite resort on account of a particular kind of clear and intoxicating ale sold there. Ramsay, who knew the place well, recalling his experiences, and singing Maggy's praises :—

Some say it was the pith of broom,
That she stow'd in her masking loom,
Which in our heads raised sic a soom ;
Or some wild seed,
Which aft the chaping-stoup did toom,
But filled our head.

In conclusion, I would refer to two well-known plants, Ulex Europœus, Gorse or Whin, and Cystisus laburnum. Gerard has isolated from the seeds of the Whin, an alkaloid *Ulexine* (the bark and the young tops also contain it, but in less quantity). The physiological action of Ulexine is interesting as it may afford the key to the L. sativus poisons, and therefore I give a few details of experiments made by Dr. Bradford, and reported in the *Journal of Physiology*. A very minute quantity of the alkaloid was injected into the dorsal lymph space of the frog, and in five minutes respiratory movements had ceased. There was complete paralysis of all voluntary movement. The muscles on being stimulated with electricity directly responded, but the strongest currents applied to the sciatic nerve failed to produce any contraction of leg muscles. The alkaloid was thus shown to be a nerve poison, and administered in larger doses proved a muscle poison as well. Further experiments with such mammals as dogs and cats again showed this Ulexine to be a powerful respiratory poison, *e.g.*, three mgrs. to a chloroformed cat killed the cat with convulsions in three minutes. The cat could be kept alive as long as artificial respiration was kept up.

It is now admitted without dispute that this Ulexine is identical with the alkaloid *Cytisine* that has been isolated from laburnum seeds, and which has been detected as present in cases of poisoning by Cytisus laburnum. As in the Gorse this alkaloid is not confined to the seeds, but its presence has been demonstrated in the bark, leaves, and flowers, and in this connection it is interesting to find record of a case of

poisoning of a family of seven persons who had eaten the flowers of the laburnum in mistake for those of the locust tree, another leguminous tree. The effects of eating the laburnum flowers were giddiness, accelerated respiration, and vomiting. No asphyxia showed itself and the patients soon recovered. Cases of laburnum poisoning are not uncommon among children, and cattle and pigs have been known to suffer after browsing on it. I may add a very curious case of narcotic poisoning due to eating laburnum roots. Fifty-eight boys in an industrial school chewed the roots of an old laburnum tree cut the day before, mistaking it for "liquorice-stick." Soon many showed the symptoms of narcotic poisoning, viz., sleepiness, stupor, and staggering about. On emetics being given, even while in the act of vomiting and holding the basins in their hands, some dropped off to sleep, as did others on their feet while being walked up and down. It was found that in the worst cases no more than half an ounce could have been chewed. The day after all had recovered.

As to the illustration of L. sativus I have thought it better to copy the figure given in Church's "Food Grains of India," rather than photographs of the plants grown at the Botanic Garden, as these, owing to the conditions in which they were reared, are possibly a little "drawn." The photograph of Cicer arietinum is also from Church.

I have to thank Professor Balfour for facilities offered me in obtaining access to Watt's Herbarium of Indian plants, and also Professor Wallace for his kindness in throwing open to me his very complete collection of the seeds of Indian fodder plants.

BANDAGING THE FRONT OF THE KNEE-JOINT OF THE HORSE.

BY VETERINARY-CAPTAIN BLENKINSOP, A.V.D., ROYAL HORSE INFIRMARY, WOOLWICH.

PROBABLY in veterinary practice no class of wounds requires more careful scientific treatment than lacerated and continued wounds to the front of the knee-joint of the horse. In order to secure such wounds healing without the risk of large unsightly cicatrices, with, in many instances, thick indurated edges, it is necessary to take every precaution to keep them as far as possible in an aseptic condition. This has been urged upon the profession during the past year in the current veterinary literature, and several articles have been written

by different French veterinary surgeons, both with regard to the treatment of such wounds and methods for removing the blemishes which may result from their improper treatment.

All the writers insist on carefully covering the wounds with antiseptic dressings, but differ in their opinions as to the best means of securing such dressings to the joint in question. Some recommend fixing the joints with splints, others suggest plaster bandages for this purpose, while others merely use a modification of the figure-of-eight roller bandage.

All these suggestions are, in the writer's opinion, open to certain objections. Splints are not easily obtained in ordinary practice, and, unless made to fit individual horses, are not usually satisfactory. The application of plaster bandages is only successful after operations performed with the strictest aseptic precautions, which can, as a rule, only be carried out in properly equipped hospitals with trained assistants.

The modified figure-of-eight bandage recommended in the *Bulletin de la Société Centrale de Medicine Veterinaire* of the 30th November, 1894, by M. Waldteufel, is that generally used by English veterinary surgeons, and has been known in this country for many years. It is certainly a good method of fixing dressings to the front of the knee-joint, but as usually applied has the following disadvantages :—The bandage is liable to slip unless drawn tightly, when it may check circulation, and if special precautions are not taken, it will gall the back of the limb. To prevent this galling, M. Waldteufel recommends that a layer of moss wool or tow be placed over the limb, under the bandage. This is not easy to adjust, does not altogether prevent the bandage slipping, and necessitates a very long bandage being used.

The following simple method of bandaging in cases of injuries to the front of the knee-joint is now suggested. It has been tried on a considerable number of cases in the writer's practice during the past year and has always proved satisfactory. A pad nine inches square and about one inch thick with a round hole in its centre about $1\frac{1}{2}$ inches in diameter, is made of coarse linen stuffed with cotton wool or oakum. Through this pad a number of stitches are sewn to fix the stuffing.

After the wound has been carefully cleansed by irrigation with some warm antiseptic solution, and the necessary dressings applied, the pad is placed over the back of the knee, with the central hole over the prominence of the pisiform bone, and is kept in position by a $2\frac{1}{2}$ inch roller bandage four yards long. This roller is applied as follows :—Two circular turns

are taken round the lower extremity of the forearm over the upper edge of the pad from within outwards across the front of the limb; this fixes the bandage, which is now brought obliquely downwards over the front of the joint to the outside of the superior extremity of the cannon bone, where two circular turns are taken round the limb, over the lower edge of the pad. The bandage is then brought obliquely upwards from the inner side of the cannon to the outside of the fore-arm, and continued as a simple figure-of-eight bandage, until the whole of the front of the joint is covered, while the circular hole in the pad remains uncovered. The end of the bandage should be finally secured by a few stitches in preference to pins or tapes. The bandage should always rest on the pad at the back of the limb, and if properly applied no reverses will be necessary to make it lie evenly. Of course it is taken for granted that a proper surgical bandage is used and not one with hemmed edges or with a selvedge on one edge.

This method has the following advantages over those previously reported :—

1. It does not slip.
2. It has never been found to gall.
3. The pad is easily and quickly made, and, consequently, can always be replaced when soiled.
4. It is inexpensive.

NOTES ON THE CLINICAL HISTORY OF GASTRIC AND INTESTINAL AFFECTIONS IN THE HORSE.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

(Continued from page 18.*)*

(5.) *Acute Gastritis, with Rupture of the Stomach.*

Date.—August 15th, 1894.

Subject.—An aged mule.

History of Case.—On returning from work the previous evening, the animal appeared dull and refused its feed. Shortly afterwards she was seized with acute abdominal pain and continued in this condition all night. On my attendance being requested at 10 a.m. on August 15th, I found the animal lying in a corner of the shed, with the head turned towards the left side; the mouth was open and contained a small amount of unmasticated hay; the abdomen was greatly distended and tympanitic, the surface of the body cold, the pulse almost imperceptible, respirations quick and shallow. I was informed that there had been temporary ease from the pain for about an hour. The animal made feeble attempts to

vomit, but no egesta appeared, and she died quickly after a few convulsive struggles.

Post-Mortem Examination.—Performed immediately after death. On opening the abdominal cavity, the gastric contents, consisting of a large amount of oats mixed with potatoes, were found scattered throughout the peritoneum. The stomach was empty and showed an extensive rupture through its greater curvature, the edges of the rent in its walls being dark-coloured. The villous mucous membrane throughout was acutely inflamed and thickened.

(6.) *Gastric Impaction, with Rupture of the Stomach.*

Date.—December 10th, 1894.

Subject.—A van-mare 8 years old.

History of Case.—Was recently purchased and appeared healthy. Was sent to work as usual at 8.30 a.m., but after going a mile appeared sick and made attempts to throw herself down. On being brought back to the stable she showed symptoms of acute abdominal pain, with tympanitic distension. The ordinary colic draught was administered without any effect, and in addition a dose consisting of ol. tereb. 2 ozs., spts. ammon. aromat. 4 ozs., ol. lini. 1½ pints. This was taken badly, and an enema administered was quickly returned. On my attendance at 1 p.m. I found the animal lying down and in great distress, with enormous tympanitic distension of the abdomen, the pulse was weak, quick and rather wiry in character, and the respirations greatly accelerated. There was profuse sweating all over the body, but especially on the region of the left flank, the pain was continuous but not violent. I learned that while in the act of lying down, she had sat on the haunches for a minute. I immediately inserted the trocar and canula in the right flank, and a large amount of gas escaped, but it quickly gave evidences of reappearing, so I administered creolin 1½ ozs. in 1½ pints of warm water by means of Toope's trocar and canula. There was an anxious expression of countenance, the pulse was rapidly assuming a "running down" tendency and the abdominal distension was quickly returning, the animal maintaining the standing position. I ordered a pint of whisky as a diffusible stimulant, but it was administered with great difficulty. The animal made feeble attempts to vomit, but no egesta appeared, the mouth was open and the head depressed. She made a sudden stagger forwards and fell, biting the ground, and died quickly at 2 p.m. after a few convulsive struggles.

Post-Mortem Examination, Dec. 11th.—Abdomen enormously distended, and extensive serous effusion on both flanks. Carcase very fat all over. On opening the abdominal cavity, a large amount of the gastric contents were found surrounding the stomach. This organ was ruptured through the greater curvature, and in one portion of the viscus, portion of the food, consisting of hay and oats in a dry condition, was found firmly impacted. The villous mucous membrane was congested. The bulk of ingesta, when placed together, was very large. The small intestines were empty, but normal, and the large division showed the usual amount of ingesta. The liver was greatly reduced in size, very pale in colour, and friable, giving the appearance as if boiled to excess.

Remarks.—Rupture of the stomach is not always evidenced by characteristic symptoms. In the last case the animal was prevented from rolling about by the attendants, so that this factor is not essential to the occurrence of this fatal lesion. At the commencement of this case, the only symptoms presented were those of a severe attack of flatulent colic, until the character of the pulse and the general constitutional disturbance pointed to a very serious condition. On looking up medical literature on the subject of perforation of the stomach as the result of gastric ulcer, I find that the symptoms resemble, to a certain extent, those occurring in the horse as the result of rupture of this organ. In both there is at first violent pain, attended by vomition, but in the case of the human being the latter occurs earlier. This is followed by an apparent ease from the acute pain, and a condition termed *Lipothymia*, a term indicating a marked failure of the vital functions, viz., those of circulation, respiration, and body heat. In the *British Medical Journal* of November 4th, 1892, there is an excellent paper by Dr. S. Gee, which includes a description of the clinical history of perforation of the gastric walls. This is interesting to veterinarians from a comparative point of view.

(7.) *Meningitis, accompanied with Gastritis.*

Date.—Dec. 13th, 1894.

Subject.—An aged bay gelding.

History of Case.—Always healthy. On returning from exercise about 5 p.m., the animal appeared sleepy and inclined to stumble while walking; on entering the stall, he endeavoured to rest himself against the walls, and showed a tendency to push his head against any object within reach. After a short time he went down and commenced to struggle

violently with both fore and hind limbs, and sweated profusely. He continued in this condition through the night, having received opiates without any effect.

Next morning, at 9 a.m., I saw the animal, and found him in great distress, fighting convulsively with both fore and hind limbs; there were short periods of ease, but without any warning the struggling would commence, the movements being always in the same direction; there was profuse sweating all over the body, the eyes had a wild appearance, the pupils were dilated, and the eye-balls were moved from side to side in a quick, convulsive manner. He was unable to rise, and, after some difficulty, the catheter was passed, and a large amount of pale-coloured urine was withdrawn. Chloroform was administered with a view to give some ease from the violent convulsions. When fully under the anæsthetic, with the eyes insensible to the touch, there were still short spasmodic movements of both hind legs. He gradually became weaker, and death was a happy release to his sufferings.

Post-Mortem Examination, Dec. 15th.—The stomach contained a moderate amount of ingesta. The villous mucous membrane was acutely inflamed and thickened. The small intestines were slightly congested in patches, large intestines normal. On examining the brain, I found the meninges acutely inflamed, opaque and thickened, the minutest vessels were deeply injected. On examining the cervical portion of the spinal cord, the meninges were also acutely inflamed. Pressure of time prevented me from examining the entire spinal cord.

Remarks.—I reported a similar case to the above, in the *Veterinarian*, in the early part of last year.

In that case violent symptoms at first were present, the animal rushing madly about the stall, with occasional tetanic seizures of the muscles of the head and neck, and after the standing position became impossible similar symptoms to the present case were manifested.

The *post-mortem* appearances were also similar.

The present case is interesting with reference to the action of chloroform, the effects of the irritation of the spinal centres still persisting when the functions of the cerebrum have been removed by the action of the anæsthetic. Does not this explain, to a certain extent, the involuntary movements sometimes observed when operating on a horse placed under the influence of an anæsthetic? I have frequently observed when operating under chloroform, an involuntary movement to take

place, even when anæsthesia was sufficiently complete; this is no indication for a further administration of the drug, and the serious results recorded sometimes from the effects of chloroform are chiefly due to pushing the administration under these circumstances.

No. 8.

Date.—September 1st, 1894.

Subject.—A light harness mare, five years old.

Previous History.—Had always been a delicate feeder, and at present has been doing very little work.

History of Case.—Refused food this morning, and at 10 a.m. showed signs of abdominal pain, was prevented by the attendant from rolling, he administered a pint of ol. lini., also ale and ginger, without any effect. My attendance was requested by telegram, but as the distance was 12 miles from town, I could not attend until 4.30 p.m.

I found on arrival that the animal had been kept walking about, but would lie down and roll violently if allowed. The pain was continuous, pulse quick and rather wiry in character. Temperature 101°, respirations accelerated, visible mucous membranes injected, the ears were drooping and the animal showed a depressed appearance of countenance, abdomen tender to the touch. There were frequent intestinal murmurs, and I ascertained that there had been frequent passage of fæces during the day, but no urine. I administered 1½ ozs. chlorodyne, which I happened to have with me, as not being informed of the nature of the case, I omitted to bring the medicine case. This dose gave temporary relief, the animal lay at full length, occasionally groaning and turning the head towards the right side. At 5.30 p.m. the pain returned, the animal rolled violently, then stretched at full length, groaning deeply, kept from rolling, and obtained from the chemist the following:—

Take Morphinæ Hydrochlor., gr. x.
Chloral Hydras, 1 ounce.
Mucilago Acaciæ, q.s.
Aqua, 1 pint.
Fm.

This was administered, and after 20 minutes the patient became quieter, lay down, and appeared in a sleepy condition. Fearing a recurrence of the pain, as the pulse and general appearance pointed to a serious condition, I wired to town for the assistant to bring a supply of cannabis indica, etc.

At 6.30 p.m., the symptoms of pain were returning, so a similar dose of morphine and chloral was administered. An enema was also given, and the catheter passed, but only a small amount of thick dark yellow urine was drawn off, during which process the patient strained violently.

At 8 p.m. the animal appeared quiet, but strained occasionally as if trying to urinate. Gave spts. æth. nit. 2 ozs., aqua, 1 pint. Left instructions if the pain reappeared to repeat the dose of morphine and chloral. Allowed no food except sloppy bran mashes, and put on muzzle to prevent the litter being eaten.

September 2nd.—Visited patient at 10 a.m., found that there had been no recurrence of the pain, but no fæces or urine had been passed. Attendant stated that the animal had strained occasionally as if to urinate. Prescribed small doses of potass. acet. Take digitalis, and spts. æth. nit., three times a day, kept on bran mashes and oatmeal gruel, ordered walking exercise.

September 3rd.—Visited at 4.30 p.m., found patient looking quite well, fæces and urine passed in normal amount, ordered careful feeding and exercise.

September 4th.—Reported fit for work.

Remarks.—I did not venture upon a diagnosis in this case, the constitutional symptoms and the continuous character of the pain pointed to a serious condition. The symptoms pointing to some disorder of the urinary system I do not pretend to explain, but the diuretic treatment certainly gave marked relief. The combination of morphine with chloral hydrate is one which, as the result of experience in its use, I can confidently recommend. It is especially useful in those instances where morphine induces cerebro-spinal excitation, as the latter action is overcome by the hypnotic effect of the chloral.

No. 9.

Date.—August 31st, 1894.

Subject.—A grey cart-gelding, 6 years old.

Previous History.—Has been in present owner's possession only a short time.

History of Case.—Had been at work all the morning. On coming in at 2 p.m., got a drink of cold water, refused feed, and in a short time afterwards showed slight pain, which gradually increased. The urine was passed in small quantities. On being brought for treatment at 4 p.m., the animal showed symptoms of slow abdominal pain, and made

frequent attempts to lie down. The pulse was quick and full, respirations accelerated, temperature 101°, extremities cold, and the animal was sweating profusely all over the body, the abdomen was tense and painful to the touch. Gave chlorodyne 2 ozs., spts. æth. nit. 2 ozs., ol. lini. 1½ pints. Passed catheter and drew off a small amount of light-coloured urine, also administered enema, which was quickly returned.

On reaching the stall he lay down carefully and groaned frequently, the profuse sweating still continuing, had him well covered over with clothing and straw. At 4.30 p.m. symptoms of violent pain appeared, the animal making attempts to lie on his back. Gave ext. cannabis indica, ½ oz. in bolus. In about 20 minutes the pain disappeared, and at 5 p.m. he appeared very sleepy, the eye-lids being half closed, and he was snoring deeply. He lay at full length, getting up quietly a few times. The sweating had disappeared and the surface of the body was warmer. At 9.30 p.m. slight signs of pain again appeared, and another dose of cannabis indica ext. ½ oz. was given in bolus. After a short time the animal lay down and slept all night. At 10 a.m. next day he was in a state of profound narcosis, he stood persistently, the eyes were closed, the head drooping, a quantity of frothy material issued from both mouth and nostrils, the pulse was quick and weak, respirations slightly stertorous in character, there was difficulty in progression, with weakness and apparent loss of power in the posterior extremities, the appearance was dull and listless, the penis was pendulous. He places his mouth in a bucket of bran mash, but holds the food in the mouth and makes no attempt to swallow. The body surface was cold, and if the animal was made to move, he staggered about. Fæces and urine had been passed during the night. Gave 1 pint of whisky and 2 ozs. of spts. æth. nit., which was administered with difficulty. Prescribed 2 ozs. of spts. æth. nit. every four hours, and kept on soft food.

September 2nd.—Horse still sleepy in appearance, and moves the hind quarters in a stiff manner during progression. Bowels and kidneys acting well.

September 3rd.—Horse greatly improved, has a slight cough, still slightly sleepy, feeds well; sent to exercise.

September 4th.—Horse convalescent.

Remarks.—The above case shows the physiological action of cannabis indica. The second dose might have been smaller or omitted altogether with benefit. As an hypnotic and anodyne, this drug is a very valuable medicinal agent,

but the difficulty with regard to it is that it is difficult to approximate the proper dose so as to avoid excessive after effects. Whether some horses possess an individual idiosyncrasy to its action, or whether the strength of the drug varies, is a point on which I am not clear. I have frequently observed that large doses of it may be tolerated without producing the effects described above, while in certain cases even moderate amounts will cause a decided narcotic action.

However, although apparent alarming symptoms may be produced by its action, clinical experience of its use demonstrates that these are by no means serious, and it certainly is far preferable to see the subject of acute pain in a state of narcosis, than to see him going round his stall, as a result of the exhibition of large doses of opium or morphine. Moreover, cannabis indica has no astringent effect on the intestines, nor does it interfere with the urinary excretion.

PATHOLOGY OF ROARING.

BY A. J. HASLAM, M.D., C.M., F.R.C.V.S., ARMY VETERINARY DEPARTMENT, NEWBRIDGE.

I BELIEVE to the distinguished English veterinarian, Thomas Greaves, Esq., F.R.C.V.S., belongs the credit of being the first in Great Britain who placed on record, from *actual observation*, the frequency of a difference of size of the laryngeal nerves in roaring of the horse (VETERINARY JOURNAL, January, 1889). As stated by him, the fact appears to have escaped anatomists and others. In the VETERINARY JOURNAL, July, 1893, I published several instances (one in detail) of this condition, but I am unable to corroborate Greaves' statement as to the occasional *absence* of the left nerve, in any part of its course. Trasbot, in France, has noticed a lesser size of the left recurrent, as a *result of pressure* of enlarged lymphatic glands.

In my communication I made an appeal for the dissection of the left nerve in cases of roarers, and as this appeal has, so far, not been responded to, I submit some further facts gathered by myself. I am able to enlarge our knowledge, but only to find we are still in comparative ignorance of the disease under consideration.

First: Two horses, in which neither roaring nor grunting were noticed during life, and in which I am disposed to believe the wind was normal, but must qualify any conclusion by stating that neither had been examined by a veterinary surgeon within two years of their deaths. The one—an

animal *well-known* in a cavalry regiment—an Irish gelding, aged seven, in good fat condition. The right crico-arytenoideus posticus was bigger, firmer, plumper, and redder than the left, but which latter did not show any white tendinous bands due to atrophy of muscle. The right recurrent nerve was thicker than the left for the length of the neck. No *further* examination made, either of other muscles or remaining portion of nerves. Animal died of ruptured intestines.

The other case, an Irish mare, aged 10, in good condition, and used for light draught purposes, owned by an *intelligent* farmer who knew what roaring was, and who states that she never made any noise except squealing, and that she was an inveterate kicker; she was destroyed for vice. The crico-arytenoideus posticus of left side atrophied to extent of showing the white glistening bands consequent upon partial wasting of the muscle. Right muscle perfectly normal. The left recurrent nerve smaller than right, which was pinched and flattened into a ribbon-like expansion for about half-an-inch or more, owing to being *jammed* between the eighteenth ring of trachea and the left brachial artery about five inches from anterior border of first rib, *i.e.*, the eighteenth ring, counting forwards, from the bifurcation of the trachea. One could see between the separated and atrophied nerve bundles, so much was the nerve compressed. As interesting to anatomists, I may mention that in this animal there were 61 tracheal rings—not "40 to 50," as stated in one text-book. The brachial artery was carefully examined for atheroma, etc.—it was quite normal and elastic. Posterior to this expansion the left nerve was a little thicker than in front of it, but not as thick as the right nerve in any part of its course. Nerve preserved in Müller's fluid, to be reported on. From these two cases, the *probable* conclusion is that much atrophy of nerve and muscle can exist without roaring. The evidence is not *absolute*, because the horses were not professionally examined immediately prior to death, but I think it is *reasonable* evidence. Was the flattening due to pressure or to stretching? Whatever the cause of the expansion of the nerve over the ring, the question arises—How much atrophy can exist without roaring? Was this (the farmer's) case merely a matter of time, as to when symptoms would have shown themselves? Was the nerve in an abnormal position? Text-books do not give the very minute information required to decide the point; perhaps a quarter of an inch variation might have given the necessary relief from pressure or stretching. The mare was ten years of age and not doing

fast work; if *stretching* had been the cause, it ought to have brought about roaring, one might conjecture; and the same argument would apply to *pressure*. If there had been anatomical variation, and such peculiarity had been transmitted, surely a clear predisposition to roaring. Moreover, I would, *en passant*, add that I have made autopsies of roarers in which there was less atrophy of the crico-arytenoideus posticus than in this latter case.

Now for a case of grunting without roaring—an Irish mare, aged nine, in first-class condition, an inveterate grunter, known for four years. A favourite show animal, being very willing and clever and chosen for all equitation competitions in the regiment. Ridden by a farrier for two years. She never roared, but in stable, and outside, whenever moved or startled, or rider's legs closed on her, she gave the well-known sound.

Autopsy.—The right crico-arytenoideus posticus particularly plump, red, and firm, especially plump over inferior third of posterior part of cricoid cartilage. The left muscle showed the white glistening tendinous bands owing to wasting of muscle. Other muscles not examined. The left nerve about one-third less than the right in thickness, traced from larynx to branching from vagus, but *no place of pressure* was found, and there was no flattening. The smaller size of left nerve kept up all the way, but the right nerve was only actually compared with it for the length of the neck. Here we have a condition, as far as it goes, similar to that found in roaring. Moreover, the left nerve was not as small, and the atrophy of the left crico-arytenoideus posticus was not as great as in the mare just cited (the farmer's case), which was distinctly the larger animal.

We may, at any rate, so far corroborate the *clinical fact* so well recognised that roaring and grunting are allied; whether their difference is merely one of degree, remains to be proved.

A Case of roaring—An Irish mare, 12 years old, good condition. Reported to have roared distinctly at gallop and fast trot, but not at a slow trot, for two years. Has not become worse or better. Died of enteritis. *Autopsy.*—Crico-arytenoideus posticus of left side much atrophied, showing white tendinous bands. Right muscle healthy. Left arytenoideus, left thyro-arytenoideus, and left lateral crico-arytenoid, were all atrophied and pale as compared to right muscles. Even the left crico-thyroid seemed a trifle less than the right crico-thyroid, not nearly the difference between the other right and left muscles, probably the result of partial disuse of left side

and not interference of trophic or motor influence. The left and right recurrents traced from larynx to vagus, the former was one-third less than the latter in thickness. At *no place was there any pressure* on left nerve, and certainly no flattening nor expansion. At the very entrance of chest where applied to inferior surface of trachea there appeared rather little areolar tissue, but I did not think it abnormal, the common carotid being directly under the nerve. The right nerve maintained its relative thickness throughout its course (entire left nerve preserved). In the neck with both the right and left nerves, there were tracheal nerves closely bound up with the recurrents to about eight inches from entrance of chest, and which had to be carefully separated.

If I had to make a comparison between the amount of atrophy of left crico-arytenoideus posticus of this roarer, and that of the *same* muscle of the non-roarer (farmer's case), I would say they were exactly alike, but that in the farmer's case the left nerve was not so thick as in this roarer.

However, here we have a grunter and a roarer in which no seat of pressure on nerve was found, and yet a difference in size of right and left nerves; and in one of the non-roarers there was a difference of size of nerves with a place of pressure, while in the other non-roarer there was a difference of size of nerves, but whether with or without a place of pressure was not made out. I have placed on record other cases of roaring, in which there was a seat of pressure, and a difference of size of nerves. It must be noted that these ribbon-like expansions were not the plexiform arrangements seen occasionally in most animals. They were definitely associated with a tracheal ring, and there was no anastomosis or branching at these parts. According to Fleming, Sussdorf places on record a "*flattening perceptible by means of the microscope where the nerve passes between aorta and trachea,*" and is presumably considered as a physiological phenomenon, not associated with atrophy of nerve or muscle, nor with roaring. Sussdorf terms it *microscopic*. The *flattening* I refer to can be seen and felt by even men who work in the forge. One must make allowance for errors of observation, but these are the suggestive facts I venture to make public. It behoves us to examine the larynx all over, the laryngeal nerves of both roarers and undoubted non roarers, to trace both nerves to the vagi, and to preserve nerves, and even vagi and medulla! As soon as my material is more or less complete, I will issue a microscopical account of these changes now reported.

I venture to think a central cause is suggested by some of the above facts, as in the roaring of Lathyrus sativus; or can our patients be the subjects of a peripheral neuritis, allied to that of plumbism in man? but here, in lead poisoning, we really possess no reliable information of the condition of the nerve centres.

The pressure theory, to my mind, will not altogether account for even every one of the few cases of laryngismus paral. I have carefully dissected.

In a case due to pressure alone, one would expect a gradual increase of the roaring, as, indeed, is often the case; but there are cases of fairly sudden origin. Is it possible such cases attributed to exhaustion consequent upon thermic fever, life on board ship, change of climate, heated stables, etc., are due to a morbid condition of the central nucleus of the laryngeal nerves? But why the left side? Why does roaring relatively oftener follow strangles than pneumonia? I doubt the statement that when roaring follows strangles the latter is generally of the irregular variety, and so likely to produce pressure on left nerve in the chest; nor does the thickened membrane theory of strangles explain the subsequent left paralysis. If roaring is due to the debilitating effects of disease, we still require to know the *modus operandi*, so as to end in left laryngeal paralysis.

Bearing upon this nerve atrophy are the operative attempts for the relief of roaring by nerve union. If a nerve has lost the power of conveying impulse, it follows that only after new fibrils from the fresh nerve supply have grown to the muscles, could junction take place. I venture to think, however, that so long as the partially-atrophied left laryngeal nerve communicates with its intact trophic centre, re-establishment of nerve junction can take place very shortly after a new trophic centre is brought about by operation. In regard to muscle, possibly another argument applies with reference to the period after loss of junction, it can recover. These matters are obviously a matter of a needful investigation. How are we to explain those roarers which for a time make more noise at rest after trotting than while actually travelling? I have seen two such. The distinguished Irish veterinarian, Mr. J. Allen, F.R.C.V.S., Dublin, relates an instance of an animal he himself tried severely, without a sign of whistling. Directly he stopped or slackened pace, whistling began, and so every time he was tried. Sound breathing when extended, whistling at rest. It might be conjectured that here we have paresis and want of co-ordinative control. While attention

was fixed on speed, the proper respiratory reflexes were set up, and that the difficulty of respiration at rest (indicated by noise) was not sufficient to excite them.

I venture to state my opinion that the reasons yet assigned for roaring are insufficient for some cases. We have much to learn. This subject of roaring is, I think, one of the most interesting in surgery and pathology. Everyone can help to elucidate the problems involved, by making and recording their observations in detail, before and after death, of both roarers and non-roarers. Nothing but a microscopic and experimental research can complete the subject. I have begun the work, and only desire to go on with it.

P.S.—Since writing the above, on making an autopsy of an Irish mare, aged four, in prime condition, a remount of the 3rd Hussars, dead of volvulus, I find a smaller left recurrent and paler, smaller and less firm left crico-arytenoid postic than on the right side. These were noticed by Lieut. W. F. Shore, A.V.D., quite independently of any suggestion on my part. In this case the muscle was not sufficiently wasted to show an abnormal amount of fibrous tissue. I traced both nerves to origin, but no seat of pressure or expansion was found, their relative difference being kept up. This mare had only joined the regiment last September, and since then had stood in sick lines for a sprained hock. While there she caught strangles, which was cured in ten days. She was slightly off feed with a little fever about a fortnight afterwards, for a week. Since joining the regiment, then, she was *never out of a walk.* This mare was, presumably, quite sound in wind when joining, having been examined by the remount veterinary officer. The reasonable presumption is that she was still a non-roarer. From what has been previously said, nothing more suggestive than this case could be wished for.

DISLOCATION OF THE KIDNEY.

BY JAS. MCPHAIL, VETERINARY STUDENT, NEW VETERINARY COLLEGE, EDINBURGH.

A GREY cart horse, the property of Messrs. Mutter, Howey & Co., carters of this city, slipped and fell on the frozen snow while drawing a lurry on January 7th. As he was unable to rise, he was brought in a float to the College Infirmary. He was made comfortable on a good bed of straw, and during the night succeeded in rising. The bowels and the kidneys acted fairly well, mashes and hay were eaten freely, and the little pain that was evinced was easily relieved by an

anodyne draught. On the morning of the fourth day after admission, the animal was found down and could not be got up, and was found on examination to be dying.

At a *post-mortem* examination made the same day, the following lesions were disclosed:—The left kidney was torn from its attachment and lay free in the abdominal cavity. One of the ribs was broken and had pierced the lung, tearing off a large piece of the pleura and extensively damaging the lung substance.

VOMITING IN THE COW.

BY JAS. McPHAIL, VETERINARY STUDENT, NEW VETERINARY COLLEGE, EDINBURGH.

A COW, the property of Mr. Lindsay, dairyman, Annundale Lane, was seen on December 15th, 1894. The animal was extremely tympanitic, and the symptoms being very urgent the rumen was punctured forthwith and a large quantity of gas escaped; but the flank did not collapse in the marked manner usual in cases of pure tympany. There was evidently a large quantity of ingesta present.

The more urgent symptoms being relieved, an opportunity was afforded to look round the animal. To my astonishment she appeared to be chewing the cud, and in front of her lay three or four buckets-full of what looked like a bran mash—it was really brewers' grains, which had been swallowed and returned again; one could hardly say ejected, the action was not what one associates with vomiting; there was no force, no apparent contraction of the abdominal muscles or spasm of any kind: the cow simply kept up a sort of churning motion with her jaws, and the "stuff" rolled out into the trough in front of her, much in the same way as mince rolls out of a sausage machine. The proprietor stated that this had been going on for a couple of hours. The treatment consisted in the administration of a few doses of sulphite of soda, followed by carbonate of ammonia and afterwards by a strong aperient of Epsom salts, which put matters right, though the animal was not herself again for a fortnight. Doubtless a fermentative process was going on in the rumen, and the evolved gases hurried the contents into the œsophagus to be brought into the mouth as in rumination.

PARALYSIS OF BLADDER, RECTUM, AND TAIL.

BY WALTER PERRYMAN, M.R.C.V.S.

THE subjoined are notes of a peculiar case recently under my charge, the like of which I have failed to find in any of the

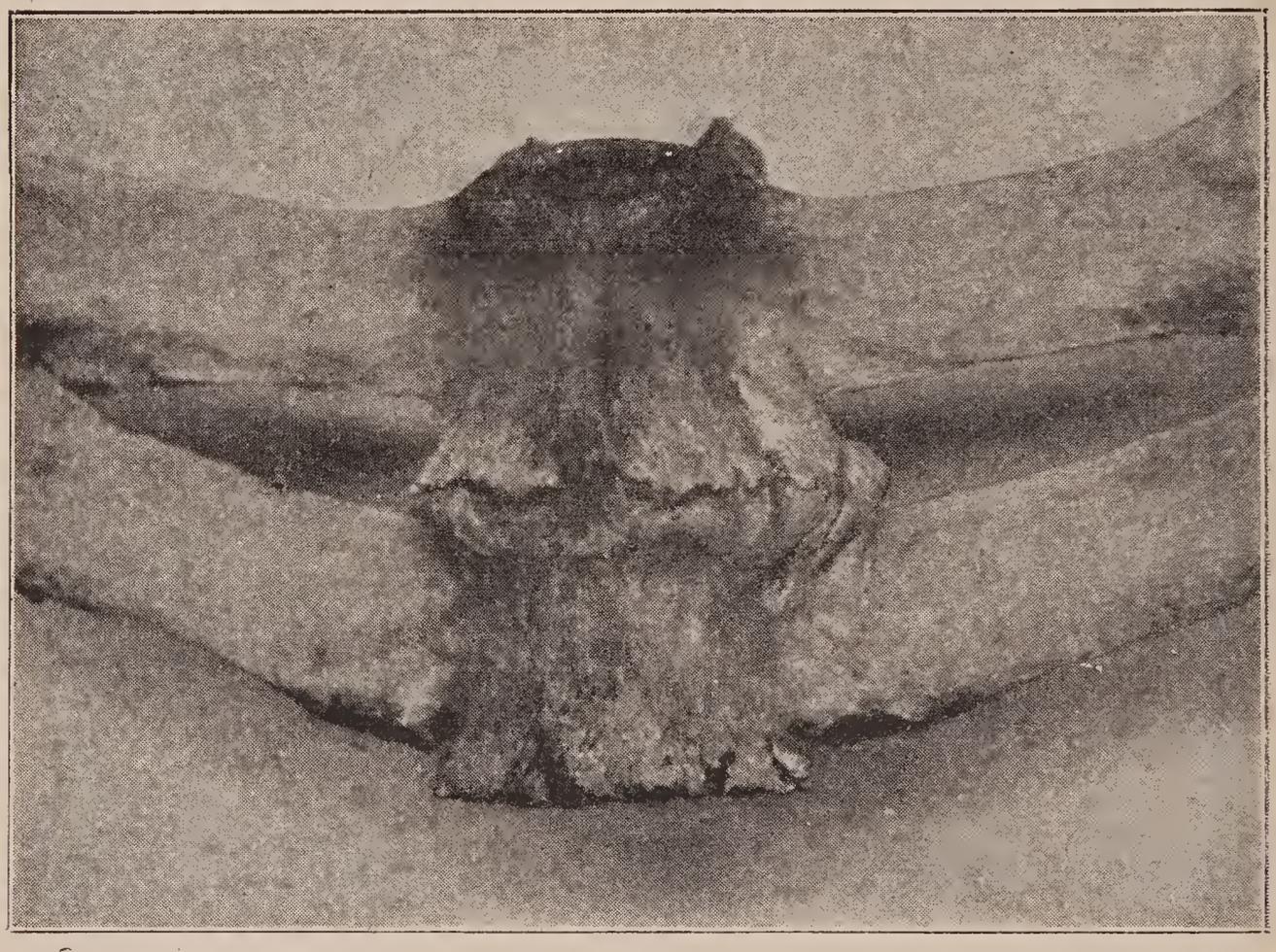
text-books I have searched, and I cannot call to mind having seen any recorded in our periodicals. I had not met any member who had had a similar case until recently, then a friend told me he had seen two. I asked the nature of the pathological conditions, but was simply told "it was nervous." I determined, if possible, to fully investigate my case, should a *post-mortem* be available. Opportunity arrived, when, after a careful search, I was able to locate the seat of the disturbance. The facts are as follows :—

Subject.—Brown gelding, age seven years off, the property of Messrs. Simpkin, Marshall and Co., publishers, Strand. The animal had been in their possession since last March, and, until my attention was called to him, nothing whatever had been noticed amiss. About October 10th I was requested to see him, as he appeared unwell. I found him dull, listless, and not feeding; pulse and temperature normal. My attention was directed to the true cause of the trouble by seeing an enormous mass of fæces behind the animal. I explored per rectum, and found the bowel dilated to several times its normal condition, and packed with fæces, which I removed. The animal was unable to micturate, but evinced a desire to do so whenever the bladder became full by pawing and stretching himself out, although unable to draw the penis. The tail could not be moved voluntarily, and was quite insensitive to pain, motor and sensory paralysis being well marked.

The treatment adopted consisted of—ol. lini., mag. sulp., tinct. nucis. vomic., combined with alcoholic stimulants. Hot flannels, flat-ironing, and stimulating liniments to the spine. Soap and water enemas two and three times daily. The bowel frequently emptied, likewise the catheter passed and urine withdrawn, the latter, as a rule, being highly coloured and very offensive in odour, the last portion drawn being greatly charged with mucus and occasionally tinged with blood. After three weeks' treatment the patient appeared as at first. Prognosis unfavourable, there being, probably, pressure on the nerves at their origin.

I was asked to consult with another veterinary surgeon as the cob was one of the best in the stud, and every chance should be given him. Accordingly I met Mr. A. E. Gostling on two ocasions; the result of our consultation was to smartly blister the back as far as the root of the tail. Nervine tonics, enemas, etc., continued, and per rectum inj. physostig. administered twice daily in 20 m. doses. To this the animal responded in the course of three or four days by being able

to pass small quantities of urine, and slightly drawing the penis; he was never able to empty the bladder, as could be ascertained per rectum, and it was necessary to withdraw the remaining urine by means of the catheter, as the bladder showed increasing signs of inflammation, no doubt brought on by the acrid condition of the urine. Apparently little inconvenience was felt, except at such times when the two organs were very much distended, then the cob would stand with back arched and occasionally kick at the flank; at such times after the bowel had been emptied, invariably from one

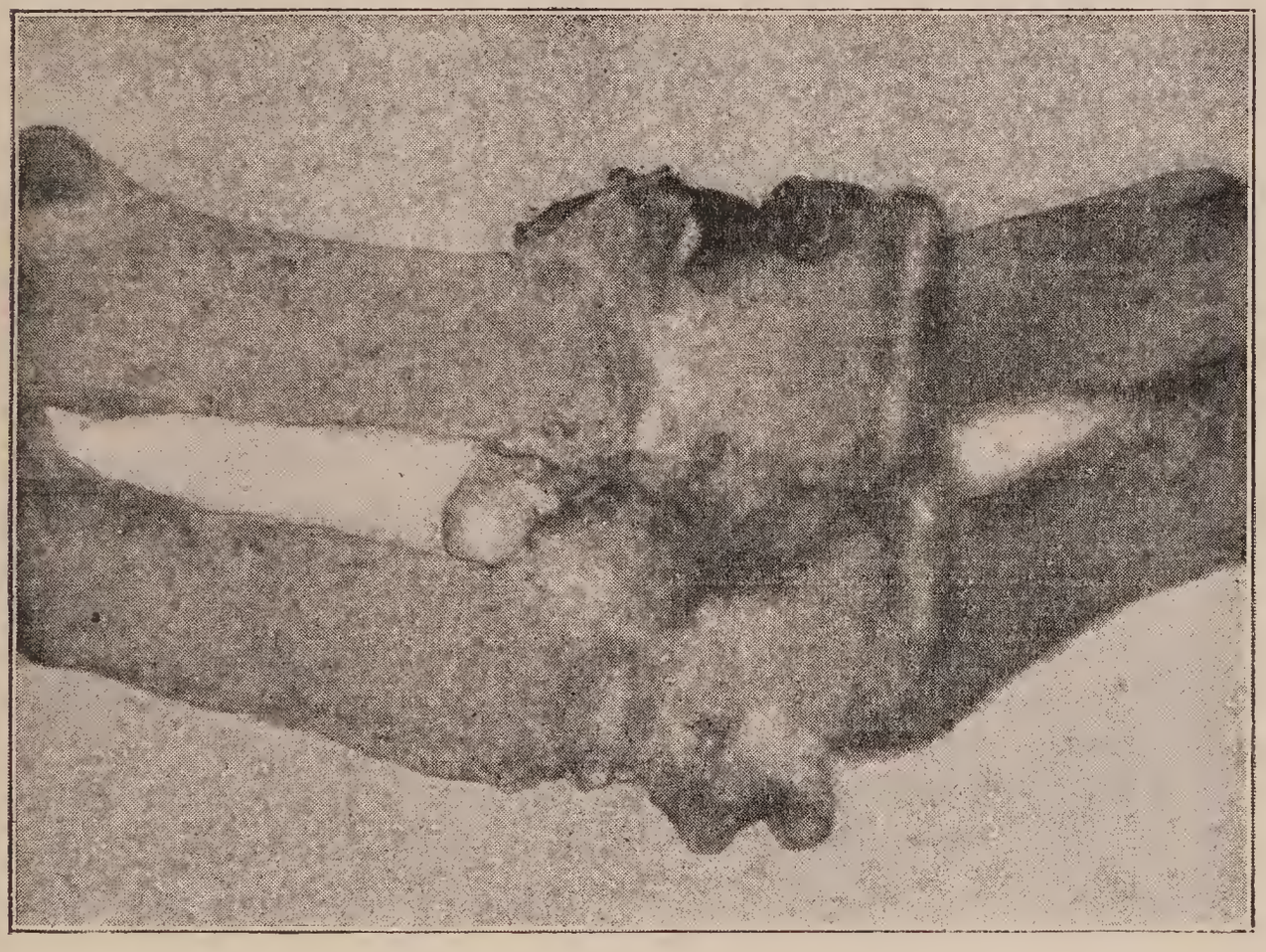


THIRD AND FOURTH LUMBAR VERTEBRÆ IN CASE REFERRED TO ABOVE.

to three pints of urine would be passed voluntarily. When out at exercise, a lively disposition was exhibited. During the whole time treatment was carried on, the appetite was good, carrots and mashes being eaten freely in addition to dry food. The peristaltic action of the other bowels could be heard most distinctly as well as felt, when the arm was in the rectum.

November 28th.—The animal was slaughtered; I then made a careful *post-mortem*. The bladder was inflamed and thickened; this I attribute as a secondary action. Kidneys normal, as were all the other organs. After the carcase was

stripped, I managed to secure the posterior half of the spinal cord and its coverings, the latter in the lumbar region for some, three or four inches was congested directly opposite to an enlargement on the bodies of the lumbar vertebræ. The bones were boiled, and then to my satisfaction I found two of the lumbar bones (third and fourth) firmly anchylosed. No portion of the intervertebral cartilage being visible, the bodies of the bones laterally being much enlarged, that on the left side extending to the intervertebral gap and nearly occluding the space, causing pressure and paralysis of the



THIRD AND FOURTH LUMBAR VERTEBRÆ IN CASE REFERRED TO ABOVE.

nerves as they gained exit from the spinal cord. The inner portion of the canal was quite smooth. I offer no hypothesis as to the cause of the mischief; probably others of your readers who have seen similar cases may be able to do so.

A WONDERFUL MILCH COW.

BY WALTER PERRYMAN, M.R.C.V.S.

RECENTLY having been attending a cob at a dairy where cows are kept on the premises, I was naturally desirous of seeing the animals, and was rewarded by finding what I think

a wonder of the bovine species. So much so, that I fear many of my readers will doubt the veracity of my statements. The facts were told me by the owner, who was quite willing to substantiate them, by producing the receipt, the man who brought the cow to the dairy, and one or two others as witnesses. I, myself, fully believe his statement. The cow in question was Dutch, had been bought at Smithfield Market in December, three years previously, being newly calved down (she had had about four calves). At first she gave eighteen quarts of milk daily, and continued doing so for about eighteen months. She then gradually dropped to eleven quarts a day, which quantity she had been giving for several months past. During the whole of that time (three years), she had not had a calf.

She will be kept, I was informed, until the quantity is reduced to eight quarts, then quickly dried and sold to the butcher. I may add she is quite fit for killing purposes now.

The cow is generally termed a milking machine. Could a more appropriate name be given this animal?

Editorial.

THERE is one practical question bearing upon veterinary education which is already attracting a good deal of attention, and which will have to be taken up in earnest before long. That is the question whether it is expedient or necessary to continue the enforcement of the rule that a candidate at an examination, who may have been rejected by the examiners in one subject, must appear again for all the subjects, including those in which he had satisfied the examiners on the previous occasion. The argument on behalf of the existing rule, apart from the consideration that it exists and therefore ought not to be changed, appears to be that it will not do to let down the standard by allowing a candidate to pass his examination piecemeal. It may not be unprofitable to notice in this connection that the experience of universities and cognate examining Boards does not appear to support this contention.

The type and exemplar of all the diplomas which are now given in the various professions, including our own, after a due course of education and examination is, of course, a University degree. This is the model which has been followed. It is worth noticing then, that in the early days of University graduation, where there was examination at all, there was only one examination for any given degree. But as

the range of subjects increased, and each subject was more severely examined in, it became absolutely necessary to divide the whole examination into portions; for example, that in medicine, into the now well-known first, second, etc., examinations respectively. The Colleges of Physicians and of Surgeons, and other similar bodies in all the divisions of the United Kingdom, have had to adopt a similar course; and thus we have young men receiving degrees from the Universities or diplomas from the Colleges, which degrees or diplomas certify their knowledge of subjects which they may already have in large part forgotten. It might be that theoretically every candidate ought to be absolutely fresh in all his subjects on the day he receives his degree or his diploma; but this is an unrealisable ideal, and in practice the subjects are divided into groups, and one group is passed at a time.

There can be no doubt in the minds of those experienced in the matter, that every student learns for examination purposes much which he does not afterwards retain in his memory. This is not an unmixed evil, however, and it would not be legitimate to say that he should only learn those facts which he is sure to remember afterwards. The great matter is once to have mastered a thing, once to have known it; then, when that subject comes up, the practitioner knows the general lie of the ground, knows where to get information about the point, knows enough about it to understand readily what he reads, or hears, or sees, and, at any time, knows enough to be able, by a kind of acquired instinct, to avoid making actual mistakes. Talleyrand was once asked by a lady, anxious for the welfare of her son, whether a knowledge of Latin was essential in the diplomatic service. "Not in the least, Madame," said he; "but it is of vital importance that he should have forgotten it." What he meant was, of course, that it was important he should once have known it so thoroughly that every part of the subject should in later life come under the category of something, if not remembered then, forgotten, not of something never learned. The man who has all his points always at his fingers' ends, is a professor or a consultant, and an ideal professor or consultant at that.

The present system, then, is the result of a compromise. On the one hand, it must be ascertained that the student has once mastered a considerable range of facts and principles; and, on the other, the examinations must be so arranged as to distribute his work equably, and not impose any impossible burden upon him at any one time. There is no broad prin-

ciple necessarily involved in this latter. It is a question of degree and of expediency only. Experience is our teacher as to what amount of division of the course of examination is found to enable us to get the best results from our students. The experience of other bodies ought, then, to be a useful guide to us.

Now, when we look at such a body as the University of Edinburgh, we see that there is, in the Faculty of Medicine, a decided drift in the direction of sub-division beyond what is provided for by the formal division into first, second, etc., professional examinations. Twenty years ago, any student of medicine who failed in one subject had to come back in all the subjects of the entire examination; then, the hardship came to be provided for by special exemptions in particular cases; now, it has become quite an ordinary thing to take two subjects at a time, and work steadily, at any rate, through the earlier part of the course on that basis. And further, even in examinations such as the LL.B., which cannot be said to be examinations designed for the average passman, and which may even be said to be designed in order to exclude him—even in such examinations it has been found necessary to permit the candidate to restrict himself to two subjects at a time.

Again, if we follow up the medical analogy, and look at what is being done by the Conjoint Board for Scotland, we find that they allow the candidate to pass less than a whole examination at one time, provided that he make a higher percentage on what he does pass. At the same time, a candidate who takes advantage of this privilege cuts himself off from the prospect of honours or distinction in that examination; for honours or distinction in any examination are only given to those who pass the whole examination at one time.

If we turn our eyes towards what is now a really severe examination, that for the English Bar, as regards percentages, we understand that the ordeal is searching, for an average of 75 per cent. in all subjects must be reached; but it is understood that even there it is possible to pass in two subjects at a time, which could not be formerly done.

The teaching of experience, the drift of practice, and the example of examing bodies of high standing thus seem to run in the direction of allowing, or even of encouraging, the student to distribute his examinational work better in the course of his curriculum, to concentrate his attention with more effect upon any given subject, and thus to attain a

higher standard, by taking a small number of subjects at one time.

We can scarcely credit the report that Major Tennant is to be appointed to the post of Head of the Veterinary Department of the Board of Agriculture. Such an appointment would be a deadly insult to the veterinary profession, and were it not the case that the salary of Professor Duguid is less than that of some of the clerks of the Department, we should feel inclined to deny even the possibility of such a thing.

We wish to draw the attention of our readers to the Act of Parliament on page 107, and to point out its importance to the profession.

JOHN GAMGEE.

OUR readers, and indeed all who are interested in veterinary and medical science and in the treatment of our domestic animals, must have observed with regret the announcement in the newspapers of the death of this distinguished savant which occurred on December 19th last. John Gamgee was the son of the eminent veterinarian, M. Joseph Gamgee, who still survives and has now reached the patriarchal age of 93. He was born at Florence on May 3rd, 1831, so that he was in his 64th year at the time of his death. Joseph Gamgee, the father of the deceased, was born in England, but early in life obtained an appointment in Italy which necessitated his going to live near Naples; thence after a number of years spent in gaining knowledge and experience he proceeded to Florence, where all his children but one were born and where the energetic and enthusiastic young English veterinary surgeon soon made a large practice for himself and laid the foundations of enduring fame. Joseph Gamgee was a devoted husband and father, and thought no effort too great and no sacrifice too painful if thereby he could obtain a better training for his children and advance their real interests. Accordingly all the young people obtained the very best training possible at the time in Italy, and John was sent to study anatomy under Professor Pacini of Florence, being intended by his father for the medical profession. But whilst he was pursuing these studies a change was made in the career of his elder brother, Joseph Sampson

Gamgee, who had been solemnly dedicated by his father to the veterinary profession, the elder Gamgee having a passionate love for his work and everything connected with the study of veterinary medicine, and being determined that one son, if possible, the eldest, should follow in his footsteps. It was decided, however, that Joseph should devote himself to a medical career, as he seemed to have more aptitude for that than for veterinary science, and John Gamgee was directed into his elder brother's place. He went in course of time to Alfort and likewise to the Royal Veterinary College in London to complete his studies and extend his experience, and in 1856 he came to Edinburgh to assist Professor Dick, and where he filled the anatomy chair with great satisfaction to the students. He was most assiduous in his duties; lectured twice daily, in the morning on anatomy and in the afternoon on physiology.

John Gamgee had early manifested a liking for engineering science, and even in Florence had shown abilities in this direction. Indeed, it is possible he might have followed such a career from the very beginning, had it not been for his father's determination that he should become a student of medicine. Be that as it may, it is true that John Gamgee, after severing his connection with the veterinary profession, took up engineering projects. He was interested in ice-making, and it was he who formed the well-known rink at Southport, in Lancashire.

M. Gamgee was a man of great refinement and the most polished manners. He had a fine appearance, being tall and well-built, and was greatly esteemed by a wide circle of friends.

BACTERIA MICROBES.

THE *Journal d'Hygiene* has the following interesting notes on microbes:—

"If, on the one hand, microbes are scattered over the whole surface of the earth, float in the air, and mix with the water we drink; and if, on the other hand, the organism is so widely accessible to them on its internal and external surfaces, how does it happen that health is not constantly endangered? The reason is that, apart from the powerful means of defence which the organism opposes to its enemies, these latter are themselves subject to causes of destruction which are most precious aids to us. Microbes are, in short, like all other beings, subject to the laws of nature; they become gradually enfeebled by the exhaustion of the nutritive media in which they exist, and undergo successive degradations which may be compared to those of senility, and which end, like that, in death. In addition, these legions of invisible

enemies meet in nature various destructive agencies: they resist with difficulty the action of light and the oxygen of the air.

"A. *Action of Light.*—It is generally found that twenty-five to thirty hours of exposure to the sun are sufficient to kill. The spore-bearing bacilli, when exposed dry to the solar light, resist a little longer, but end by perishing likewise at the end of six weeks or two months. Quite recently, Koch stated that solar light destroyed, in the same way, the virulence of the bacillus of tuberculosis in a few minutes or a few hours, according to the thickness of the cultivating layer exposed to its rays; the diffused light even would kill a cultivation within five to seven days. Finally, the non-spore-bearing species, such as the micrococci, are deprived of life at the end of a few hours of exposure to the sunlight of our country.

"B. *Action of Oxygen.*—The oxygen of the air is necessary or useful to the existence of the majority of microscopic micro-organisms, and yet, on occasion, this agent becomes for them one of the most active causes of destruction. When, that is to say, they no longer receive nutritive matter and the afflux of oxygen continues, this, in place of consuming only waste matter, as it does under normal circumstances, attacks the substance of the microbes themselves, which is gradually worn away, just as the tissues of the human body in cases of inanition. This is particularly true of the micro-organisms which are suspended in the air or scattered over sterile substances—which, in a word, are removed from their ordinary media of nutrition.

"The resistance of micro-organisms to the oxygen of the air is variable. Those most subject to its action are the micrococci, the *sporic* form of which is not yet known. The bacilli have much more power of resistance. A year of exposure to the air, at its ordinary temperature, is sufficient to kill the immense majority of the micrococci, whilst the bacilli have been found alive after several years of aeration. The life of the spores, which are, like the seed of vegetables, the agents of conservation or resistant form of the species, is prolonged still farther when they are kept in a closed jar from which the oxygen gradually vanishes. Under these conditions they have been found alive after the lapse of a quarter of a century. But these are exceptional conditions which are seldom realised in nature, the spore being specially liable to become dried up and to be blown about by the wind. M. Duclaux experimented on some tufts of cotton, loaded with millions of germs, that had been gathered from the air during a period of twenty years; these had been kept in diffused light under the ordinary dust conditions of our rooms, and were found by M. Duclaux to be absolutely sterile. 'However long,' says he, 'the resistance of bacilli or spores to the action of the air may be this resistance has yet a limit which determines the pollution of the atmosphere by them.' On this point, as on many others, observation and practice have anticipated the teachings of bacteriology; the opening up to the air and the sunlight of rooms which have been occupied by sick people, and of articles which have been handled by sick people, has at all times been regarded as the most efficacious of prophylactics.

"C. *Action of desiccation.*—Desiccation by dry heat likewise destroys germs, or at any rate their vegetation forms, for the majority of spores resist it. This fact has been demonstrated by the cholera bacillus of Koch; probably it is not an isolated case.

"These various data have a practical importance, in which hygiene is directly interested. The innumerable micro-organisms, vegetative forms or spores, which the decomposition of dead bodies and of organic matter of all kinds is constantly spreading on the surface of the ground, must as constantly be scattering themselves through the atmosphere. But there they meet, constantly active, the agents of destruction, whose power has been demonstrated by bacteriological research, namely, oxygen, light, heat. Thus, side

by side with living germs, the atmosphere must contain a still greater number of dead ones. This is confirmed by analysis. Analysis shows us that the countless dust-particles floating in the air we breathe, are for the most part mineral substances or dead bodies of microbes. We thus readily understand that the number of the latter which remain alive, must vary according to the extent of the sources of production, and the energy of the agents of destruction. It is for this reason that the air of a barrack is more polluted than the air of a private house, that mountain-air is purer than the air of a narrow valley, that ground rich in decomposable matter is more dangerous than a desert of sand or ice.

"D. *Action of water.*—In water, these germs have scarcely any more chance of preservation than in the atmosphere. Undoubtedly, Meade Bolton has fallen into exaggeration when he states that common aquatic bacteria are capable of living and multiplying in water, and that pathogenic microbes, and notably, the bacillus of typhus, which are more exacting than the others in their demands for nutrition, die off rapidly, not only in distilled water, but even in waters rich in organic matter. The researches of Wolfhugel and Riedel, and especially the more complete researches of Strauss and Dubarry, show that a great number of pathogenic microbes (typhoid fever, cholera, tuberculosis, glanders, streptococcus, pyogenesis, &c.), can maintain their existence for a pretty long time in ordinary water, and even in distilled (sterilised) water, and that they are far from having as an absolute characteristic that rapacity for food which we are so apt to attribute to them. Nevertheless, even this tenacity of life has a limit which does not exceed eighty-one days for the typhus bacillus, a hundred-and-thirty days for the anthrax bacillus, and thirty days for the cholera spirillum. It may be that these limits themselves, determined by laboratory experiments, are too wide, at least so far as concerns the bacillus of typhus and anthrax. This seems to be the outcome of some experiments made at Munich, which have the advantage over the others of following more closely natural conditions."

DR. VOELCKER ON MANURES AND CAKES.

Castor-oil Bean in Linseed Cakes.

THE occurrence of castor-oil bean in linseed cake is, in my experience, almost confined to the case of foreign-made cakes, and especially those that come from Marseilles. At the latter port a good deal of castor bean is crushed, and care is not always taken to thoroughly clean the mills of it before putting them on to linseed or other seed crushing. This constitutes one of the chief risks run by farmers who purchase cheap foreign-made cakes. In one instance that came under my notice, a delivery of cake, sold as "Round Italian linseed cake," was found to contain castor-oil bean, and over thirty lambs died from eating it. In another case a farmer had been unwise enough to purchase the sweepings of wharves, floors, &c., and into these some castor-oil bean had found its way. On giving it to a flock of ninety-six sheep, twenty-five of them died, and all the others were more or less affected. It need hardly be said how great is the risk run in using as food for stock such materials as the sweepings of mills, floors, &c.

In reference to the occurrence of castor-oil bean in linseed and other cakes, it is well to point out that a difficulty may exist in subsequently tracing the actual presence of the poisonous seed, for, inasmuch as it is seldom or never put in purposely, but finds its way in by some means, such as that described in the crushing of linseed immediately after castor seed has been used in the same mill, it is quite possible that only the first lot of cakes of a delivery may contain the castor seed, while others may be free from it. An examination of a single cake may thus, presumably, lead to the conclusion that no castor is

present. In all such cases, several cakes from different parts of the delivery should be separately examined for the presence of the poisonous seed.

Cotton Cakes.

Perhaps in no recent year has cotton seed come over to this country more "woolly" and dirty than during the past season. Nor has there often been less trouble taken generally in cleaning it. Sand, as noticed in my last annual report, has again been prominent by its quantity, and, taking it all round, the common or undecorticated cotton cake has been singularly poor in quality this year.

In one case in which I had reported that a sample of cotton cake was "very woolly in character, the seed not having been properly cleaned from wool," it was ascertained that three bullocks that had been feeding on the cake had to be slaughtered. The vendors of the cake admitted its bad condition, and the liability incurred.

In a second case, the cake again being full of wool, animals to which it was given refused to eat it.

In a third instance, though the cake was sold as "Pure Egyptian cotton cake," it was found not only to contain a great deal of wool, but also actual pieces of rope crushed along with the cake.

The presence of an excessive quantity of wool, owing to imperfect cleaning of the seed, constitutes, in my opinion, ample ground for considering such a cake "impure," and I shall, in future, report accordingly.

CASTRATION BY LIGATURE OF THE CORDS AND A SINGLE INCISION OF THE SCROTUM.

(From the *Recueil de Mèdècine Vétérinaire.*)

In a paper read before the *Société Centrale de Mèdècine Vétérinaire*, M. Cagny says:—"In castrating horses by the elastic ligature, I had more than once operated by making a single incision in the scrotum. Availing myself of the experience thus acquired, and remembering the objections raised against the operations of my fellow-practitioners—the trifling difficulty of fixing the clam on each cord, and the possibility of hæmorrhage when applying torsion—I thought it possible to combine ligature and torsion. The following is an account of what I did in the case of a horse of the English racing breed: The horse was born in March, 1892, and the operation performed in April of this year (1894). I made it a point to put myself in the position of the ordinary practitioner, so far as antiseptics are concerned, and operating without assistance.

"The horse was hobbled and cast in the usual way, and the parts were washed with a solution of cresyl, not measured. This was found to be too caustic, and afterwards brought about slight œdema of the opening of the sheath. A ligature was applied to the skin of the testicular mass in order to keep the region of the envelopes well stretched, and to facilitate the incision made on the median line of the scrotum. This incision must be made so long that, when the scrotum is laid open to right and to left, the operator may pull out the two testicles, whose envelopes have been opened at the same time; but I have never tried to enucleate the testicles nor cut the white muscle.

"The ligature of the skin being removed, taking one testicle in each hand I cross them several times over one another so as to twist the two cords. It is to the combined cord thus formed by twisting the two single cords that I apply above the epididymi a ligature of catgut No. 6. I give the catgut several turns; it sinks into the twisted mass of the cords. I make a tight

knot in the catgut, and then I cut the testicular cords below the ligature. There is no hæmorrhage. I wash the wound with the solution of cresyl, and suture the incision in the skin with catgut. As I was afraid of hæmorrhage, and of being obliged to re-open the wound (and this had already occurred with M. Benjamin), I left in the posterior part a longish space without suture. The result was: no hæmorrhage, no œdema of the part operated upon, cicatrisation by first intention of the carefully-sutured part of the wound, slight suppuration of the part left open. Before allowing the horse to rise I had simply washed the region with solution of cresyl.

"I have also operated in the same way, and obtained cicatrisation by first intention in a boar one year old, and in two dogs of the same age.

"In these experiments I have made use of catgut No. 6, and Doyen's needle, which appears to me to be more suitable for the veterinary surgeon. I have ascertained that the application of the ligature is easier when, after torsion, an assistant raises the two testicles by pulling them slightly.

"The animals did not suffer by the operation. In the case of the dogs, I observed for a day or two a difficulty in rising and in walking, and slight uneasiness at the extremity of the cords, but that seemed to me to arise from the shortness of the cords. It is certain that in animals with short cords the operation is more difficult.

"Having shown the possibility of cicatrisation by first intention of the cuts, or of the single cut in castration, and wishing specially to study the chances of hæmorrhage in the operation, I dispensed, in the case of two young pigs two months old and of two young cats, with the sewing up of the skin; having no catgut I had employed indiarubber string, which has this defect, that it cuts too rapidly the mass which it compresses. I merely replaced in the wound the extremities of the two cords, and washed the parts with a solution of cresyl; there was not the slightest complication. I ordered the pigs to be placed in a clean sty with dry bedding, but on the eighth day, taking advantage of their keeper's carelessness, they got out of the sty and ran to wallow in a mess of filth and urine at the side of a dung-heap; after this they were allowed to wander about the yard as they liked, and they were never a bit the worse.

"In dealing with our client's stock, we are not permitted to make experiments, and I have, therefore, never again been able to renew this treatment on the horse, but it seems to me quite practicable, and I make this communication in the hope that those of my *confrères* who can, will make the experiment and let us know the results. My way of treatment is more rapid than the separate torsion or separate ligature of each cord. I have on former occasions tried the single incision along with the elastic ligature. Then I did not think about sewing up the single cut, and I ligatured the two cords *en masse*, and did not twist them; the testicles came away without hæmorrhage in a day or two. It might, perhaps, suffice to do the same with the catgut, or to cross the two cords only once, and so diminish the risk of dragging."

In the discussion which followed, M. Benjamin said: "I am not surprised that M. Cagny had no accidents with his new method of castration, because he operated only on small animals, or on thoroughbred horses whose cords are not voluminous. I confess I should not like to try his operation on big horses, whose cords have considerable volume. I should be afraid of hæmorrhage. I must add that M. Jacoulet operated on a horse lately by his process—a single scrotal incision and ordinary simple torsion—and cicatrisation followed rapidly and without pus.

SLAUGHTER OF INJURED ANIMALS.

THE following Act of Parliament bearing upon the above subject has been passed :—

CHAPTER XXII.

AN ACT to enable police constables to cause horses and certain other animals when mortally or seriously injured to be slaughtered. [20th July, 1894.]

BE it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows

1. This Act may be cited for all purposes as the Injured Animals Act, 1894.

2. If a police constable finds any horse, mule, or ass so severely injured that it cannot without cruelty be led away, he shall, if the owner is absent or refuses to consent to the destruction of the animal, at once summon a duly registered veterinary surgeon, if any such surgeon resides within a reasonable distance, and if it appears by the certificate of such veterinary surgeon that the animal is mortally injured or so severely that it is cruel to keep it alive, it shall be lawful for the police constable without the consent of the owner to slaughter the animal or cause it to be slaughtered with such instruments or appliances, and with such precautions and in such manner as to inflict as little pain and suffering as practicable.

3. Any reasonable expense which may be incurred by any constable in so slaughtering any such animal or causing any such animal to be slaughtered, or in removing the carcase of such animal from any street or public place for the purposes of this Act, may be recovered from the owner summarily as a civil debt. Subject as aforesaid, any expense incurred in the execution of this Act shall be defrayed out of the fund from which the expenses of the police are payable in the area in which the animal is found.

BOARD OF AGRICULTURE.

IN the *London Gazette* of January 4th, there appeared a summary of the returns relating to contagious diseases of animals during the past year :—

Pleuro-pneumonia.—With reference to this disease, we find that 15 cases were found during the year as compared with 30 in 1893. In looking back through the weekly returns, we find that all these 15 cases were in the counties of Kent and Middlesex. In association with these diseased animals, there were 391 cattle which were slaughtered by order of the Board of Agriculture, and found free from the disease. In addition to the above, 41 cattle suspected of being affected with pleuro-pneumonia, were slaughtered, and found, on *post-mortem* examination, to be suffering from other diseases.

Foot-and-mouth Disease.—During the year there were three fresh outbreaks of this disease, one in Essex, one in Kent, and one in Cambridgeshire. In the Essex outbreak, the seven cattle attacked were slaughtered, and as no others had been in immediate contact with them, no extension of the disease from this centre took place. In the Kent outbreak, the sheep, among which it appeared, some 56 in number were slaughtered, no further extension occurred. In the Cambridgeshire outbreak, the 205 sheep, among which it appeared, were carefully isolated, and the disease did not even spread to the other animals on the same farm.

Swine-fever.—The returns relating to this disease are not very satisfactory. We find that during the year no less than 7,231 pigs died from swine-fever, 56,296 pigs were slaughtered as diseased or as having been exposed to the risk of infection, but the returns do not show how many of these were actually diseased. In addition to the above 1,320 pigs suspected of swine-fever were slaughtered by order of the Board of Agriculture, and found on *post-mortem* to be free from that disease.

Anthrax.—During the year there were 494 outbreaks of this disease in Great Britain, and 998 animals were attacked. In 1893 there were 563 outbreaks of anthrax, and 1,300 animals attacked.

Glanders (*including Farcy*).—The returns show a decrease; there were 969 outbreaks and 1,436 horses attacked as compared with 1,381 outbreaks, and 2,133 horses attacked in 1893.

Rabies.—With regard to this disease the returns show an enormous increase. There were during the year 256 cases as compared with 94 in 1893, 40 in 1892, and 81 in 1891. These cases of rabies occurred mostly in Lancashire, York W. R., and the West of Scotland.

Obituary.

H. E. Wilkinson, Newcastle-on-Tyne,	graduated,	May, 1852.
E. J. King, Diss, Norfolk	,,	May, 1854.
Geo. Marshall, Glanton Alnwick	,,	April, 1877.
J. A. Hoskinson, Partington, Yorks	,,	May, 1860.
John F. Fyrth, Bradford	,,	April, 1876.

Reviews.

VETERINARY THERAPEUTICS AND PHARMACOLOGY. BY E. WALLIS HOARE, F.R.C.V.S., CORK.

This is a book that will undoubtedly be of service to students and practitioners. Mr. Hoare has, however, hardly done himself justice. When he gives us his own experience, he writes tersely and lucidly, and it is a pity, therefore, that from want of time, as he himself states, he has not given us more of it, but has been compelled, in a great measure, to adapt from works on human materia medica. Veterinary pharmacy is treated of in an appendix, and covers twenty-three pages.

Mr. Hoare, in the next edition of the work, will be well advised to extend this part a good deal, and if this should necessitate the elimination of some physiology and pathology from the book, it will make it a more useful volume to students and to practitioners. The prescriptions will, doubtless, be of service. Some are distinctly good. But here, again, there is evidence of haste, the Latin endings being sometimes put in the nominative, and, at others, in the genitive. This is, perhaps, a trivial fault, yet in a volume intended to serve as a text book, it should certainly not occur.

Physostigmine is stated here to contract the pupil by stimulating the third nerve, and muscarin is said to dilate the pupil. It was because too strong or too irritating a solution was used by Ringer, that he found the pupil dilating after muscarin was applied. It is really a myotic, as is well known, and physostigmine contracts the pupil, not by stimulating the third nerve, but by stimulating the muscular fibres themselves.

MANUAL OF VETERINARY MICROBIOLOGY. By Professors MOSSELMAN and LIENAUX, National Veterinary College, Cureghem, Belgium. Translated and edited by R. R. DINWIDDIE, Professor of Veterinary Science, Arkansas State University, etc., etc. (Cincinnati: The Robert Clarke Company. 1894.)

In his preface to this treatise, the translator says "his object has been to supply English-speaking veterinary students and practitioners with a work on bacteriology which seemed specially adapted to their needs." To the latter, especially if acquainted already with modern histological methods in their simple applications, this book will be of much service, and even if, from

defective training, he be unable to verify its statements at his microscope, he will find in it much of great practical interest. The veterinarian in daily practice is told that he is "under the necessity of having recourse to the teachings of microbiology; the inspection of meat and the supervision of the sanitary duties which have devolved upon him, make it his imperative duty to neglect no means of diagnosis which science places at his disposal." And again, "everyone can understand how desirable it is that the practitioner, meat inspector or sanitary veterinarian, whose decisions very frequently run counter to some particular interest, should give his opinion only after having made use of this last resource." Without the use of a fairly well-conducted laboratory for specialised bacteriological work, however, and the help of a teacher, we rather fear the average student would find it somewhat difficult to fully utilise the important matter the book contains. The early chapters contain an excellent account of the morphology and physiology of microbes in general, in which we are glad to see polymorphism spoken of as undoubted, a fact some prominent British authorities have been slow to recognise. An almost entire absence of illustrations, however, renders the morphological descriptions more than usually dependent on educational demonstration. In a text-book this is no special fault where practical work must of necessity accompany the reading. In the physiological portion of the work, the authors notice all the more prominent theories and discoveries up to date, among these the adjuvant action of intestinal germs receiving consideration. While carefully denying the possibility of spontaneous generation, we meet, however, the statement, given quite frankly, "that at a period in the remote past, organised matter must have been spontaneously formed at the expense of mineral matter," but that now this "molecular association is no more produced." Fermentation and putrefaction are, for so small a treatise, well described. The classification of microbes given is that of M. Guignard. The individual description of microbic diseases, which forms the bulk of the book, is preceded by a discussion of the following points of interest: the distribution of pathogenic germs, heredity, immunity, receptivity, attenuation and the action of antiseptics, of which a fairly good list is given in order of their intensity of action. Although criticism is disarmed by the translator telling us in his preface that "the book is not intended for a laboratory manual, consequently the technique of staining and cultivation of germs is not exhaustively discussed," still, in a students' book, we cannot help wishing that, with so much valuable information, we had been given fuller instructions in the methods of working. A fairly good general account is given of stains and staining methods, but it is presumed the reader has already made himself acquainted with the methods of cutting and manipulating microscopical sections. The book claims to treat essentially of "animal" diseases, those of man being only incidentally referred to, but it is not forgotten to warn the practical worker of the many dangers he incurs in handling certain morbid tissues, and to advise the complete destruction by fire of whatever is not retained for actual examination, and the thorough killing of all germs in the parts retained, except in those to be used for inoculation or cultivation experiments. We are convinced that from neglect of these simple precautions, much ill-health, and even loss of valuable and promising lives have resulted, even where all necessary appliances were at hand, simply because the investigator was either too confident or too careless to use them.

Army Veterinary Department.

VETERINARY-LIEUTENANT E. P. J. Barry is transferred from Aldershot to Woolwich, and Veterinary-Lieutenant W. E. Russell from Aldershot to Canterbury.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A QUARTERLY Meeting of the Council of the College was held at 10, Red Lion Square, Bloomsbury, W.C., on Wednesday, the 23rd ult., Mr. W. Hunting, President, in the chair.

Present:—Professors Edgar, McFadyean, McCall, Penberthy, and Owen Williams; General Sir F. Fitzwygram; Messrs. Abson, Dollar, Elphick, Faulkner, Fraser, Hedley, Kidd, Lawson, Mason, Mulvey, Nisbet, Peele, Thompson, Trigger, Wheatley, and Wragg; Veterinary-Colonel Oliphant.

The minutes of the previous meeting having been signed as correct,

Mr. TRIGGER drew attention to the loss the veterinary profession had sustained by the death of Professor Walley; and moved, "That this Council place on record, and that the same be conveyed to the family and relatives of the late Professor Walley, the deep sense of the loss it has sustained."

Mr. FRASER seconded the motion, which was agreed to.

Correspondence.

The SECRETARY reported that he had received a letter from Mr. Green who had recently passed the Fellowship Examination, asking that he might be allowed to have a copy of his thesis.

On the motion of Mr. TRIGGER, seconded by Mr. FAULKNER, it was agreed that a copy of Mr. Green's thesis might be made.

The SECRETARY read a letter from a student, stating that having arrived at the written examination, held at Edinburgh, some six minutes late, he was refused admittance, and asking if there were any bye-law justifying that refusal, seeing that no one had left the room. If there were no bye-law to that effect, he asked that his examination fees might be returned.

It was agreed to defer the consideration of the matter until later on, when the reports of the examiners came to be dealt with.

The SECRETARY also read a letter from another student, who was a quarter-of-an-hour late, requesting a special Examination, and, if necessary, permission to present himself, if successful, at the final, next December, and asking that his fees should hold good for that examination, the consideration of which was also deferred.

The SECRETARY also read a letter from the examiners in cattle pathology of the R.C.V.S., awarding the Royal Agricultural Society's prizes for 1894 as follows:—1st prize to Mr. F. W. Carless, and 2nd prize to Mr. G. W. Freer.

Presentations to Library and Museum.

The SECRETARY announced the following presentations:—To the library: By Professor McFadyean, a copy of the *Journal of Comparative Pathology and Therapeutics;* by Mr. Wallace Hoare, a copy of works on Veterinary Therapeutics and Pharmacology; the "Calendar of the Royal College of Surgeons, England," and "Proceedings of the Russian Veterinary Medical College," written in French. To the museum: From the Museum Department of the Pharmaceutical Society, a calculus taken from a horse, and which was supposed to belong to the late Dr. Periera.

On the motion of Mr. WRAGG, seconded by Mr. FAULKNER, votes of thanks were accorded to the donors.

Registration Committee.

Mr. THATCHER (solicitor), in the absence of Mr. James Simpson, the chairman of the Registration Committee, whom illness prevented from being present, read the report of the Registration Committee, which stated that the

committee had had 50 cases to consider, of which 18 arose under section 17 19 were charges of unprofessional conduct in advertising, and four for unprofessional conduct generally. In one case the committee recommended prosecution. It reported that in the majority of cases where charges had been brought against members for advertising, the persons complained of had signed a letter expressing their regret and undertaking to discontinue the practice. The committee recommended the restoration of Mr. Hawke and Mr. Bartlett, as members of the College, on payment of the usual fees, the explanations given by them being satisfactory.

The SOLICITOR asked that the name of Mr. Park should also be restored. Mr. Park had given the usual declaration, and was willing to pay the fees.

On the motion of Mr. FAULKNER, seconded by Professor PENBERTHY, the report was adopted.

On the motion of Mr. ABSON, seconded by Mr. LAWSON, the name of Mr James Coulson was removed from the register for a series of offences under section C of the Veterinary Surgeons Act.

Examination Committee.

Mr. MULVEY read the Report of the Examination Committee which stated that certain instruments had been purchased at a cost of £37 odd. With regard to the election of examiners the Committee recommended that the examiners be appointed for the four years course as follows :—Six examiners in class A., six examiners in class B., and four examiners each in class C. and D. For the three years course the Committee suggested that the examiners in anatomy, histology, and physiology officiate under the new rules, and they further recommended that four examiners be elected to examine in class C under the old rules of the three years course. In conclusion, the Committee recommended to the Council 40 per cent. as a minimum of marks to pass, and that the students rejected in the examination in December last should not in future examinations be required to undergo examinations in zoology. He moved the adoption of the Report.

Mr. TRIGGER seconded the motion.

Professor W. O. WILLIAMS moved as an amendment that there be added to the Report "that it also includes those students who were eligible at Christmas but did not present themselves for examination."

Professor MCFADYEAN, in seconding the amendment, said he understood there were certain students who, from some cause or other, did not present themselves last December. It was rather hard that they should not have the advantage of the session. As far as he knew it did not affect any students of his own, but he thought it was right if there were students who had thus been circumstanced last year that they should have the advantage.

Mr. MULVEY said that personally he dissented from the latter part of the recommendation of the Committee, and he did so because students when they entered subsequent to January 1893 knew full well that zoology was included in their curriculum, and if by the leniency of the College and for their own convenience they did not choose to examine in that subject at the last examination he did not see that that was an excuse for students not having to undergo examination in future.

The PRESIDENT said that Mr. Mulvey had moved the adoption of the Report.

Mr. MULVEY: As chairman. As an individual member of the Committee he did not agree with that one clause in the Report.

Mr. LAWSON said that if it would facilitate the business he would propose the adoption of the Report.

The PRESIDENT said that would allow Mr. Mulvey to take his own course.

Professor EDGAR said that as the recommendation in the Report to alter

the minimum number of marks to 40 would clash with bye-law 83 it would be necessary for that to be brought forward *de novo*. Bye-law 83 distinctly stated that the minimum number should be 45, and now it was sprung upon the Council that the minimum was to be 40. The recommendation of the Committee would be diametrically opposed to the new bye-law, and he submitted that it ought to be brought forward after three months' notice.

The PRESIDENT said that the motion which was carried by the Council that 45 per cent. should be the minimnm had never been confirmed by a special meeting, and therefore it only had the weight of a resolution. If the new bye-laws were carried at the special meeting to be held that night, it would be law that 45 per cent. be the minimum, but if the Council liked to alter it they could do so by giving three months' notice.

Mr. ELPHICK did not see any reason why the regulations should be loosened to suit the convenience of students, and he would certainly vote against Professor Williams's proposal. Those who did present themselves for examination in December, and were rejected, should be allowed to go up under a similar examination, but those who did not see fit to present themselves from any cause, he thought should not be allowed to go up in that way.

The PRESIDENT then put Professor Williams's amendment, which was lost.

Mr. MULVEY moved as a further amendment, "That all students presenting themselves for examinations in May should undergo the examination as laid down in the four years' course," which was seconded by Mr. LAWSON.

Mr. Mulvey's amendment was then put and lost.

Professor MCFADYEAN moved as an amendment, "That the recommendations of the Examination Committee with regard to the election of examiners be not adopted at present, and that discussion be postponed to the special meeting," which was seconded by Professor W. O. WILLIAMS, and lost.

Professor EDGAR moved "That 45 per cent. remain the minimum marks for students passing."

Professor MCFADYEAN said that a full meeting of Council in the month of April last decided that 40 was to be the minimum, and that was acted upon in the month of May. A small committee meeting opposed that recommendation of the Council, and said 45. He thought that not one-half of the members of the Council knew of the alteration having been made. It came as a great surprise to the teachers and to the students in the December examination to find that whereas students was passed in May with a minimum of 40, students were rejected in December with a minimum of 45. It was adopting a higher standard than could be quoted from any examining body in the Kingdom.

Professor EDGAR said he was prepared to produce not only the evidence of one examining body, but half-a-dozen examining bodies, if necessary, that 40 per cent. was not the minimum; that 50 per cent. was demanded. It must be remembered that that was not a minimum for a subject, but an aggregate minimum, which was a vastly different thing. The written and oral gave a man an immense scope. He had power to compensate himself enormously in one stage of the examination as against the other being bad. In class B about four-fifths of the men came out with honours in the last examination.

Professor MCFADYEAN said that Professor Edgar, without knowing anything of the quality of the men in the last examination, assumed that because a larger proportion of them obtained good marks and got honours, the examinations must have been easy. He (Professor McFadyean) emphatically dissented from it. The examinations might not have been one bit easier than they were in May, when very few obtained honours. He thought that it was unfair to assume that the examination was very easy because a high proportion of students obtained honours.

Professor Edgar's amendment was then put to the meeting and carried.

Mr. TRIGGER proposed that the whole report be referred back to the Examination Committee, with the intimation that "this Council have passed a resolution that the number of marks be 45 per cent."

Mr. LAWSON seconded the proposition, which was carried.

Finance Committee.

Mr. TRIGGER moved the adoption of the report of the Finance Committee, which was seconded by Mr. Lawson and agreed to.

Steel Memorial.

The SECRETARY read the report of the Steel Memorial Committee, which stated that a die for a gold medal would cost £30, and £6 for each medal struck, and such medal would have no special design, except the College Arms, and perhaps a wreath. A die for a medallion portrait would cost £70, and bronze medals struck from it could be obtained for about a guinea each.

On the motion of Mr. TRIGGER, seconded by Professor MCCALL, it was agreed that the Steel Memorial medal be bronze, and that it have as a design on one side a medallion portrait of John Henry Steel.

Publication Committee.

The SECRETARY read the report, which, among other things, recommended that the professional journals should be allowed to send reporters to the meetings of Council.

Mr. ABSON moved the adoption of the report, which was seconded by Professor MCCALL.

General Sir FREDERICK FITZWYGRAM moved, as an amendment, and Professor WILLIAMS seconded, "That the official shorthand-writer to the College should furnish each veterinary journal with a copy of his transcript."

This amendment was last, and the report of the Committee was adopted.

Court of Examiners.

The SECRETARY read the report of the Court of Examiners, which stated that at the Final Examination held in London, 41 students were examined, of whom 26 were passed and 15 rejected; at the Second Examination, 48 students were examined, of whom 34 were passed and 14 rejected; A Examination, 37 students were examined, of whom 17 were passed and 20 rejected.

In Class A, at Glasgow College, 20 students were examined, of whom 7 were passed and 13 rejected; at Dick College, 22 students were examined, of whom 15 were passed and 7 rejected; at New College, 23 students were examined, of whom 6 were passed and 17 rejected. One Edinburgh student more should have been examined, but he was disqualified for being late for the Written Examination. One Glasgow student also failed to come up for his Oral Examination.

In Class B, at Glasgow College, 16 students were examined, of whom 9 were passed and 7 rejected; at Dick College, 35 students were examined, of whom 19 were passed and 16 rejected; at New College, 22 students were examined, of whom 13 were passed and 9 rejected. One Edinburgh student more should have been examined, but he was disqualified for being late for the Written Examination.

In Class C, Oral, at Glasgow College, 15 students were examined, of whom 6 were passed and 9 rejected; at Dick College, 33 students were examined, of whom 18 were passed and 15 rejected; at New College, 27 students were examined, of whom 13 were passed and 14 rejected. One Edinburgh student more should have been examined, but he was absent on sick certificate.

In Class C, Practical, at Glasgow College, 9 students were examined, of whom 8 were passed and 1 rejected; at Dick College, 24 stndents were examined, of whom 18 were passed and 6 rejected: at New College, 21 students were examined, of whom 17 were passed and 4 rejected.

The CHAIRMAN of the Examining Board in Class A reported that the written papers in the several subjects were not so good as might have been expected, but there was no evidence of the copying complained of at the May examinations. The examiners regretted the high percentage of rejections in Class A, which was unusual even for a December sitting, and which they ascribed mainly to students not giving sufficient attention to the practical department of their studies. The Chairman of the Examining Board in Class B reported that the standard of merit remained about the same as in previous years. The examiners in Class C, Oral, reported that they had found the arrangements for conducting the examinations satisfactory at each centre, and the Chairman of the Class C Practical Examination, reported that a larger number ot students than usual in December had presented themselves for examination, and there was a marked improvement in dispensing and the writing of the prescriptions. The students generally were better up in practical work than on any previous examination, and hence there was generally a larger percentage of passes.

Mr. MULVEY asked that the record sheets of the examination might be produced. He did not suggest that there were any irregularities, but he thought certain mistakes had been made in awarding the marks. There was a case of a student who had obtained 63 marks and no honours had been awarded to him, whereas in another case a student only obtained 40 marks, and he had been passed as "sufficient."

On the record sheets being produced, this was found to be the case, and the PRESIDENT stated that he had written to the Chairman of the Board of Examiners drawing attention to the fact, and the explanation was that there was a mistake in the marks and that it was 20 instead of 15 in one subject. He (the President) thought that in the case where honours had not been awarded when they ought to have been the Council ought to make it known that the man had passed with honours. He also drew the attention of the Council to the fact that the practical examiners had failed to award the marks as requested by the Council, but had continued in the old way of "Bad, "Sufficient," and so on.

It was resolved "That the Secretary be directed to write to the gentlemen who acted as examiners at the last practical examination, inquiring why they did not carry out the instructions of the Council in marking by numbers."

The PRESIDENT said that the report showed that the examiners took upon themselves in one case to reduce the time of examination from 15 minutes to 8, and it was resolved, on the motion of Professor EDGAR, seconded by Mr. MULVEY, "That the class A examiners be asked for an explanation of the secretary's statement that they shortened the time of examination by 40 minutes."

On the motion of Mr. TRIGGER, seconded by Mr. FAULKNER, it was resolved that the report of the examiners with all the papers in connection with the last examination, be referred back to the Examination Committee for consideration and report.

Fellowship Degree.

The SECRETARY read the report of the examiners, which stated that a meeting of the Court of Examiners had been held in London on December 14th, and in Edinburgh on December 18th, when Messrs. E. F. de Jong, J. R. Green, and Mr. H. Watkins-Pitchford presented themselves for examination and passed.

On the motion of Mr. MASON, seconded by Mr. LAWSON, the report was referred to the Examination Committee.

Motion by Professor W. O. Williams.

Professor WILLIAMS in moving, "That at this meeting the dates of the next examinations be fixed," said there were three reasons why he had brought the motion forward. The first and most important was in order that teachers

might know exactly the length of time they had to teach in. It was very hard on teachers to find that they had an additional six weeks or so added to their teaching when they had just about finished their subjects. Another reason was, because the students did not know how to regulate their work, and the third reason was because practitioners were put out by finding their pupils were away at the date they were expected back.

Mr. TRIGGER seconded the motion.

Mr. MULVEY believed the charter distinctly stated that the time for the next examination should be appointed at the meeting immediately preceding.

Mr. TRIGGER referred to the fact that the Scotch College which was opened in September of last year, had asked to have an examination a month earlier. The Council refused to permit it, however, and insisted that the examination should take place at the same time as usual.

Prof. MCFADYEAN moved, and Prof. MCCALL seconded, "That theCouncil recommend that the next Written Examination be held on Monday, May 13th."

Mr. TRIGGER gave notice that he would at the next Council meeting move that that be the date of the next examination.

Professor McFadyean's motion was agreed to.

Proposed Grant to the British Institute of Preventive Medicine.

Professor EDGAR, in moving "That a sum of £300 be offered to the British Institute of Preventive Medicine for the establishment of a veterinary laboratory in which work may be done for the advancement of veterinary science by veterinarians," said that whatever difference of opinion might exist on the Council as to the advisability of making a grant to the British Institute of Preventive Medicine, he ventured to think that they would be unanimous in the opinion that it was quite time they arrived at some conclusion in the matter. It had been brought before them, in a direct and indirect way, for nearly two years, and it behoved them, as representing the profession in this country, to set their seal either to the matter of granting a sum of money to the Institute, or to say that they did not consider it worthy of their support. The first point they had to consider was whether the Institute was worthy of the support of the College as representing the veterinary profession of the country. The whole matter had been discussed in detail; the aims, objects, and methods of working it had all been brought before the profession, and so far, he thought, as the judgment of almost every scientific man was concerned, it was calculated to advance that which the profession had near at heart. If so, there must necessarily follow the other conclusion—that it was worthy the support of the profession. The next point, and, perhaps the most important, was with reference to the grant which he asked them to make—what sum of money would be worthy of the College, and whether they could afford it. If they considered that any scheme was worthy of their investing a sum of money in, they necessarily asked how much they could afford to spend. Probably they would be met with one of the strongest arguments—whether any sum at all should be granted. The next question was as to the amount which they might think worthy of the influential position of the profession. Mr. Abson, on a previous occasion, had asked that £250 should be granted, and did not receive very much opposition. The Lancashire Veterinary Medical Association had offered to grant a sum of £50 if the College granted £500, and the sum of £25 if the College granted a lower sum. That, he thought, was a clear indication that the majority of the members of the Association were in favour of the College granting £500, and they did not consider it a very large sum of money for them to spend. All he asked of them was to make a grant of £300 to the Institution, which, at a moderate computation, would, perhaps, not return them $2\frac{3}{4}$ per cent., but would return to their sons, and those who were following in their work, 2,300

per cent. interest, which really could not be estimated in money value. He asked them to consider the question very carefully, because it would have a bearing, probably, upon the future of the profession. It would seal, to a certain extent, the views the College held, from a monetary point of view, as to the advantage of scientific training, and the value they placed upon it in connection with the progress of their profession. He considered that they could not, with any feeling of dignity at all, offer a sum of less than £300, and that would, probably, be supplemented by a very handsome sum from the various veterinary medical associations, which would go together to form a nucleus for establishing a very good veterinary laboratory. Another question arose—Was there any existing agency doing a work having a prior or stronger claim upon the funds of the College? Until quite recently he was not familiar with the fact that work and original research could be conducted in the laboratory existing at the Royal Veterinary College, Camden Town, other than by undergraduates. He had been under the impression that most veterinary surgeons and medical men who had desired to work in bacteriology and original research had been trained during the last six or seven years at the laboratory at King's College. He knew that a great many veterinary surgeons had augmented their scholastic education by going there and taking post-graduate courses in that work. The work carried on in the research laboratory at Camden Town School was, he believed, largely owing to the munificence of the Royal Agricultural Society, if it was not entirely carried on at their expense. The question had been raised as to whether the College could make a grant which would in any way assist one teaching institution without assisting others. He did not quite see the logic of that argument; but at the same time he thought the Council would have to be exceedingly guarded how it gave support to one veterinary school without giving support to all. If they could gain any advantage by offering a sum of money to the British Institute of Preventive Medicine, and thereby establish a means by which veterinary surgeons would be able to pursue original research, untrammelled in any way by private institutions or by the Royal Agricultural Society, so much the better, for they would be practically free agents. If they decided to give this sum of money to the Institute, the question arose—Would they be satisfied with the conditions upon which he had suggested that it should be offered? He did not propose to adhere with very great keenness to the conditions, and, for himself, he would be in favour of granting a sum of money unconditionally. He thought if the College gave £300 absolutely unconditionally to the Institute, it would be money well expended. He did not undervalue in any way the magnificent work which had been done at the laboratory at the Camden Town School. All honour to the men who had been pioneering the work there, and who had raised the veterinary profession to a position of honour in scientific research. They all honoured Professor McFadyean and his work in the College, but he did not see why there should not be two or three Professor McFadyeans in the country, instead of one.

Mr. Lawson seconded the motion. He thought Professor Edgar had been very modest in his demands.

Professor McFadyean said he would like it to be made clear whether the college was giving that sum to the British Institute to found a laboratory in which any graduate might conduct private research, or to promote it as an institution which was to teach bacteriology and pathology. He would like to ask Professor Edgar if he knew of a single veterinary surgeon who would wish to conduct a private research, and was capable of doing it, who could not find a laboratory in which to carry it out. If there were many members of the profession who were anxious to follow pathology and bacteriology or who were anxious to conduct researches on those subjects, and could not find

places in which to carry them out, he thought the motion would, to a certain extent, be an advisable one, but he thought there were many other things which had prior claims on the generosity of the college.

Mr. WRAGG said he could assure the members that his sympathies were quite with the good work which was proposed to be done by the British Institute of Preventive Medicine, but he could not allow his sympathy to override his opinion as to whether the college could afford to give so large a sum as £300 at the present moment out of its funds. The sum they were asked to give to the Institution was a twenty-fifth part of their reserve fund. He thought they ought to be very careful of their funds. He begged to move as an amendment, "That this college give the sum of £100 towards the funds of the British Institute of Preventive Medicine."

Mr. TRIGGER seconded the amendment. He thought it was very improbable that if a sum of £300 was given they could ask the Institute to accept it with conditions. He thought it would be far more graceful if they gave what they could afford without any condition at all.

Mr. ABSON thought it was important that they should identify themselves with the Institute. It bade fair to be a rival to any colonial institute of its kind, and much valuable work would be carried on there, veterinary work as well as medical work; in fact, he thought the two professions would have to work hand in hand there. There were many diseases which affected both animals and men, and the two branches must go together.

Mr. J. A. W. DOLLAR said a fact which appeared to be more or less overlooked in considering the question was the manner in which their having a veterinary laboratory at the British Institute of Preventive Medicine would act. The difficulty which the College laboured under was not that they had not already sufficient places in which to work, but that unfortunately their men were not sufficiently well endowed with this world's riches to devote themselves for one, or two, or more years to the work of private research. Had it been that any endowments were promised by the British Institute, for which veterinarians might have had a chance of competing, he would have been most delighted to have supported the proposition of Professor Edgar, but that, apparently, was not so. Another point, also, which appeared to have been overlooked, viz., that although bacteriology at the present time was much thought of, and although some very astonishing work had been done, and very great advance been made, yet that bacteriology and pathology, as sciences, were not the sole means by which they might expect to make advances; and he took it that in voting away their money, they should first consider how they might best advance the interests of the profession. It might be that in the future other schemes treating of clinical observation, or some other branch of their profession, might be brought before them, and their support demanded. If at the present time they made a very large grant to this Institute, they would be more or less in danger of crippling their funds, and, when the demand was made, of being told that they had given away all that they had to give. He thought, also, that they should not lose sight of the fact that owing to the poverty of their graduates, they might bring on themselves a very serious discredit, in fact, bring themselves into ridicule and contempt, because if an expensive veterinary laboratory was set up by an unusual act of generosity on the part of the British Institute of Preventative Medicine, and it was found there were not sufficient veterinary surgeons in a position to devote themselves for two or three years to the work, their veterinary laboratory would stand in considerable danger of being left empty; and he thought, in having made proposals which were scarcely distinguished by their modesty, it would ill-become them to have the place left empty. For all those reasons he should support the motion brought forward by Mr. Wragg.

The PRESIDENT stated that he had received letters from a number of local societies, the Lancashire, the Eastern Counties, the Lincolnshire, &c., who had all promised subscriptions through the College. He had also had a letter from Dr. Rüffer, Principal of the Institute, in which he said that there would be a veterinary laboratory attached to the Institute, that it was always proposed to have such a place, that it was in the plans, and was now being built, but he hoped the veterinary profession would co-operate with them, because although even without the veterinary profession they would proceed with the veterinary laboratory they would very much prefer to have the co-operation of the veterinary profession officially.

Mr. Wragg's amendment "That the sum of £100 be given," was then put and carried.

Professor W. O. WILLIAMS said he presumed the College could grant £100 every year if they wished.

The PRESIDENT said they could, and he hoped they would.

Proposed Scholarship Grant.

Professor PENBERTHY moved "That a sum not less than £50 (fifty pounds) be granted from the funds of the Royal College of Veterinary Surgeons to provide for a Scholarship, to be given to a graduate ; such sum to be expended in study at some foreign veterinary school or schools. That the award of the Scholarship and conditions under which it be held be decided by the Council." He proposed that it should be a grant for the present year only, but if it succeeded it could be made an annual one. His view in making the proposition was to encourage study abroad. Although they sometimes thought they were the best veterinary surgeons in the world, they could hardly claim that they had the whole veterinary knowledge. The advantage of study abroad would be that clinical medicine as well as bacteriology could be studied. The result would have to be reported to the Council, so that not only would the individual be benefited by a foreign course, but the whole profession would gain an advantage.

Mr. KIDD moved a direct negative. He said it was not the first time that the scheme had been before the Council. There had been no end of motions for £50 for a bursary. No later than the last meeting a scheme was inaugurated whereby they hoped that a large sum would be raised, and that some bursary or scholarship might arise as a result. Professor Penberthy had suggested that the fortunate individual who got the £50 should spend it on the continent. It surely did the profession no credit to say that they had to go abroad to get new education, and then come back with the brand on their breasts "Made in Germany." If sufficient education could not be given to post-graduate students in Great Britain without going abroad, they must go to North Britain and get it there.

Professor W. O. WILLIAMS said that on the continent veterinary schools were endowed with very large sums of Government money, and they had many appliances which they in England had not the opportunity of getting, because they had not the money for them. Veterinary surgeons on the continent had the opportunity of being more highly educated than any veterinary surgeons in England could be, for the reason that the veterinary schools there received Government grants to assist them in educating the students.

The PRESIDENT said that if there was anything in the world in which the English veterinary surgeons surpassed all the continental veterinary surgeons, it was in their clinical, and if there was one thing in which they were weak, it was their pathological and bacteriological knowledge. The £50 was absurd on the face of it for a scholarship. He could not see any argument in favour of the £50 being spent.

Professor PENBERTHY said there was an immense amount of clinical experience to be gained on the continent,

On Professor Penberthy's motion being put to the meeting, it was lost. The meeting closed with a vote of thanks to the President.

The Examinations in Scotland.

At meetings of the Board of Examiners held in Glasgow and Edinburgh, on December 10th, for the Written Examinations, and on and between December 17th and 21st, for the Oral and Practical Examinations, the following gentlemen passed their Final Examinations, and (with the exception of Mr. D. Campbell, who will not be of age until April 4th, 1895) were admitted members of the Royal College of Veterinary Surgeons.

GLASGOW COLLEGE—

Mr. D. Brown, Kilbride, Ayr.
,, J. Géman, Cardiff.
,, A. Hart, Glasgow.
,, D. Houstoun, Port Glasgow.
,, J. Hill, Glasgow.
,, J. H. Wilson, Glasgow.
,, H. McCartney, Neilson, Renfrew.
,, A. McDougall, Irvine.

DICK COLLEGE—

*Mr. T. J. Batty, Doncaster.
†,, D. Campbell, Aberdeen.
,, G. Chater, London.
,, W. Hewitson, Brampton.
,, H. C. Jagger, Boston.
,, J. Miller, Dundee.
,, D. Morrison, Rynie, Aberdeen.
,, J. A. Matheson, Edinburgh.
,, J. McArthur, Sligo.
,, L. McLaren, Killin, Perth.
,, J. McMaster, Stranraer.
,, A. W. Oxenham, Aberdare.
,, T. W. Rudd, Dublin.
,, E. R. Sherron, Harrow.
,, R. J. Stordy, Edinburgh.
,, A. H. Stephenson.
,, T. Smith, Coleraine.
,, J. E. Young, Nantwich.

NEW COLLEGE—

Mr. P. Abson, Sheffield.
,, J. P. Byrne, Cork.
,, F. L. Blakemore, Atherton, Manchester.
,, H. W. Deakin, Ashton-under-Lyne.
,, L. Farr, Grimsby.
,, S. Fenny, Durham.
,, F. W. Hall, Manchester.
,, J. R. Hamilton, Boyle.
,, R. C. Moore, Longhurst, Northumberland.
* ,, W. A. Pallin, Curragh.
* ,, E. Plant, Holmes Chapel, Cheshire.
,, C. L. Smith, Barnsley.
,, G. Thornton, Bradford.

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

NEW COLLEGE—*continued.*

„ A. Waller, Brighouse, Yorks.
„ W. Webster, Preston.
„ J. H. Wright, Salop.
„ J. H. Yates, Liverpool.

The following gentlemen passed their Second Examination :—

GLASGOW COLLEGE—

*Mr. J. Brown
* „ W. N. Campbell
„ R. McDonnell
† „ H. MacVean
* „ J. McLean
†Mr. R. Mitchell
„ W. Neilston
* „ A. B. Sullivan
† „ G. Thompson

DICK COLLEGE—

Mr. W. V. Allan
„ W. T. Aulton
„ R. Barker
* „ M. Bray
* „ R. C. Brayne
„ J. Caldwell
* „ W. H. Campbell
* „ J. H. Carr
* „ H. Conyngham
„ W. T. Casewell
†Mr. P. M. Edgar
„ J. C. Heather
* „ S. W. Haffield
† „ W. Russell
* „ H. W. Robson
* „ T. H. Sherlock
* „ W. Scott
* „ A. Sellers
„ A. C. Smart
* „ J. Walker

NEW COLLEGE—

*Mr. G. C. Baker
„ J. Bibby
* „ J. Brittlebank
„ H. Cameron
* „ J. Duff
* „ A. Ferens
*Mr. B. Holmes
* „ W. F. Hughes
† „ J. Kenyon
* „ J. Lyons
* „ T. Ryan
* „ J. M. Walker

The following gentlemen passed their First Examination :—

GLASGOW COLLEGE—

Mr. J. W. Conchie
„ J. C. Erskine
„ J. Forwell
„ A. Fraser
Mr. P. McKinlay
„ R. Peddie
„ R. Porteous

DICK COLLEGE—

Mr. J. Atkins
„ R. C. Baxter
„ A. G. Blackwood
„ W. J. Coffey
„ J. Dalrymple
„ J. Dixon
„ T. Boyle
„ C. Farrar
Mr. E. Lander
„ T. Loughran
„ A. G. McGown
„ F. Moore
* „ J. O'Brien
„ E. C. Orton
„ A. F. S. Jackson

NEW COLLEGE—

Mr. G. Barras
„ J. C. Blake
„ H. Briggs
Mr. H. Brittain
„ J. S. Drabble
„ J. Knowles

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

R. RUTHERFORD, F.R.C.V.S.,
Secretary to the Board of Examiners.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from page* 56.)

KOZOUREK considered slaughter the best method of dealing with the disease, but inoculation might be tried in fat cattle. As he thinks it possible to carry over the disease by inoculation he condemns that system in working, breeding, or milch cattle. Professor Nocard, however, thinks the suggestion somewhat doubtful.

Professor Schütz, who had been announced to speak, was unavoidably absent.

Professor Hutyra spoke on preventive inoculation against anthrax and swine erysipelas. He showed by the official reports of the Hungarian state veterinary surgeons that these inoculations had been extraordinarily successful, not only involving fewer deaths than in Germany and Switzerland but even fewer than in France. During the discussion Hess stated that in Switzerland inoculation against swine erysipelas was often followed by endocarditis and interference with growth.

Professor G. Piana of Milan sent some notes of inoculations he had practised with pure cultures of swine erysipelas, obtained in the first place from pigeons which had been inoculated from pigs dead of "rouget," and with an emulsion of spleen pulp from pigs and rabbits dead of the disease. The results were very successful, but I need not here enter into statistics. The method is of course only to be recommended where the "vaccin" is unobtainable.

Wednesday was taken up with a discussion on the organisation of meat inspection in which both the 7th and 17th sections took part.

Professor Czokor of Vienna referred to the necessity for general and obligatory meat inspection. Great strides were being made in this direction. Naked-eye inspection, once considered ample, was no longer sufficient, and recent advances in histology and bacteriology were being utilised in the examination of meat for human consumption.

Fein alluded to the necessity for compelling all animals to be slaughtered in public abattoirs where an examination could be made by a competent veterinary surgeon both before and after slaughter. Meat from foreign parts should only be admitted with a written declaration from the local meat inspectors, whilst condemned meat ought to be rendered harmless by boiling or otherwise. Statistics should be kept showing the number and variety of diseases discovered, with all other desirable factors.

The meeting finally approved the following resolutions :—

1. Every animal destined for human food should be examined by an expert both before and after slaughter.

2. The term expert is understood to mean veterinary surgeon, though in occasional instances, laymen with limited powers might be substituted.

3. To carry out obligatory meat inspection, it is absolutely necessary to erect public slaughter-houses in the more important districts. and an attempt should be made in the same direction even in small communities.

4. To promote uniformity in meat inspection, special laws are required to regulate the cattle traffic, and exact directions for its conduct must be laid down. The disposal of meat from diseased animals should be under the control of the Minister of Agriculture, who should formulate regulations in accordance with the progress of veterinary science.

The rest of Wednesday was given up to questions relating to the preservation and cooking of meats and similar foods.

On Thursday none of the sections sat, a very large number of excursions having been planned to places of interest in and about Budapest.

The morning of Friday was devoted to mallein. Professor Nocard opened

the proceedings with a very able paper, part of which I have already reported in the *Veterinarian* for November. As, however, that report contains a sentence capable of double interpretation I will briefly recapitulate the principal points. Professor Nocard gave the usual warning against employing mallein when the subject is feverish, suffering from cold or other disease, or exposed to extremes of heat or cold, and went on to describe the local and general reactions. The most interesting portion of his discourse had reference to the practical treatment of cases suspected of or actually suffering from glanders. He advises that all horses in infected stables should be injected. but deprecates the immediate slaughter of all which react, and suggests rather that where the animal shows no clinical signs of glanders we should content ourselves with rigorously isolating it, marking it conspicuously, and making every month an injection of mallein. During the course of several months some horses will show clinical signs of glanders. These should be at once destroyed. On the other hand, it will happen that a certain subject will resist the inoculation—will show no local reaction nor rise in temperature. Should such resistance be maintained and no reaction follow the next monthly inoculation, Professor Nocard states that the animal in question may be returned to its place in the stable without fear. By the adoption of this system the stable is finally rid of the disease, whilst the local rates are relieved from payment of unnecessary compensation.

Dr. Preysz was the next essayist. He gave the results of his experience since 1892 when mallein was first introduced into Hungary. In all he had studied 486 cases and made 126 *post-mortems*. Of these 126 horses, 22 had shown a rise in temperature of 1·5 C. Eight proved glandered, 1 seemed suspicious, and 13 were not glandered. Fourteen showed a rise of 1·5 to 2 C. inclusive. All proved glandered. Eighty-eight showed a rise of over 2 C. Of these 83 were discovered to be glandered and 5 were doubtful, but of these five one had shown an incomplete reaction and four were not examined after death, so that the presence of glanders is not impossible. Preysz therefore concludes that a rise of more than one and a half degrees centigrade is required to decide the case as glandered, and where no confirmatory clinical evidence is present the case should not be condemned unless showing a rise of two degrees or more. The temperature begins to increase in from four to six hours and reaches a maximum in the 8th to 14th or 16th to 20th hours. Preysz sets less value on the local swelling, rigors and dulness than on the fever. Where external glanderous lesions exist the *post-mortem* examination often shows small fresh centres in the lungs, etc., alongside of older growths. These he regards as due to metastasis. Though the reaction becomes less after repeated injections Preysz does not consider that recovery occurs.

Professor Semmer gave an account of the use of mallein in Russia. During 1893 about 11,000 doses were prepared in the Imperial Institute for experimental medicine in St. Petersburgh and sent to all parts of Russia, where no other is used by the officials. His experience had been that mallein seldom failed or gave false results. Most glandered horses showed 2° to 3·4° C. of fever, and a large local swelling. The temperature sometimes falls slightly soon after the injection. The slightest recorded cases of temperature in glandered horses were 7° C. and 1·2° C. respectively. Healthy horses showed fleeting elevations of temperature of ·1° C. up to 1·1° C. accompanied by temporary local swelling, He considered the healing and immunising power of mallein to be very slight and by no means constant. Since the 20th March, 1894, the use of mallein in the Russian army has been made obligatory, but microscopic, bacteriological and inoculation proofs are also ordered to be made at the same time.

Professor Csokor of Vienna stated during the discussion that the small semi-transparent centres resembling frog's spawn which are often found in the

lungs are nothing more than emboli. He also reminded the meeting that Löeffler and Schütz had discovered another bacillus which gave the same kind of brown cultures on potato as glanders, and that the only conclusive test for glanders was that of inoculation.

Professor Ostertag pointed out that the calcareous nodules often found in the lung may sometimes be due to echinococci, and that in Vorpommern 70 per cent. of horses have been found to suffer from echinococcus disease. Echinococcus nodules may be distinguished from glanders centres by the fact that they are never accompanied by ulcers or cicatrices in the mucous membrane.

Lastly came Professor Nocard, who declared himself assured that the small, pin-head-like, translucent pulmonary centres only occur in animals which have been exposed to glanders infection. They are never seen in healthy horses. By feeding with chaff moistened with virulent glanders cultures similar centres are produced in from three to seven days. The animals then react to mallein, and a *post-mortem* shows the presence of these centres in the lungs. The centres always contain glanders bacilli, and even though inoculation experiments fail, cultures will reveal their presence. Nocard does not consider that mallein can altogether displace other means of diagnosis, but it is a most valuable addition to them, and he finds its greatest advantage in the fact that it allows the healthy horses to be sorted out from an infected stud, and obviates the necessity for isolating the entire establishment.

The work of the week, which I have endeavoured to very shortly sketch, ended with Friday. Saturday was devoted to general questions of hygiene, but not such as present an immediate interest for this meeting.

Many other things we saw, however, such as the magnificent estate of Count Esterhazy, at Totis, the great pig-fattening establishments at Budapest, the Veterinary School in the Rottenbillergasse, the vast roller flour mills, whence comes the far-famed Hungarian flour, the exhibit of the Fire Brigade of Budapest, and the great demonstration by that body, in which some two hundred men took part, and showed the practical use of their equipment. Invitations to dinner, to the breweries, slaughter-houses, baths, wine cellars, athletic competitions, and every form of entertainment were freely distributed, and many of the theatres gave gratuitous performances. These I could tell you of if I have not already overtried your patience; but perhaps I had better confine myself to a short description of our visit to Totis, and to the pig-fattening establishment.

The excursion to Count Esterhazy's estate at Totis was planned for Thursday when no meetings took place. The guests assembled at the central railway station at 8 a.m., and were conveyed by special first-class train to Totis, reaching there at 9 a.m. For the convenience of the party the train stopped immediately before the castle, where we were received by Count Esterhazy in person who gave us a very warm welcome. My brother and myself were sufficiently lucky to secure a private introduction to the Count through the medium of Mr. Waugh who holds a very responsible position on the estate. Breakfast was at once served, after which the grounds were thrown open to the guests. The palace at Totis stands on a strongly-fortified island, about half a square mile in extent, lying near the upper end of a large lake. Though often besieged it has never been taken. Until about 1850 Count Esterhazy maintained a large body of troops of his own, and the veterans still do duty as sentinels at the entrance to the castle and at various points in the palace. Passing from the breakfast-room into the courtyard of the castle we were attracted by the howling of some wolves which had been captured in pitfalls and are now kept as curiosities. Close to them is a den containing several Hungarian bears. Leaving these we went to inspect the fox-hounds and harriers of which Count Esterhazy has two packs. A curious fact about the fox-hounds is that they have to be continually replaced from

England, as not only do they degenerate physically, but they lose their power of scent. The stables adjoin the kennels, and, as is usual in Hungarian noblemen's establishments, consist of a long building paved with brick, divided off into immense loose boxes, and with a lofty, open, oak-timbered roof. A broad passage extends the entire length of the stable, and at the centre broadens out so as to form a space abont 20 ft. square, on one side of which is a large open fireplace, and seats and tables for the men on duty. Most of the grooms are English, the Count's confidential servant is English, and altogether the stable department is a little English colony. I need not say that everything was scrupulously clean, brass like gold, horses in the pink of condition, and not a straw out of place. An inspection of the grounds, &c., occupied us until lunch, which was served in the winter garden—a great green-house about 70 ft. square and 30 ft. high, roofed with glass, and filled with beautiful palms and semi-tropical plants. Wine from the Count's own vineyard was supplied freely, and everyone did full justice to a very bounteous meal. About 1 p.m. we set out to see the race-course, young thoroughbred stock, cattle and buffaloes; and when I tell you that the company filled sixty carriages, some with four horses, and none with less than two, and that these were all the property of the Count, it may give an idea of the princely style in which the entertainment was framed. The Count has a stock of about one hundred and twenty yearlings and two year olds, some of great promise, and all descended from English sires, many of which have distinguished themselves on our own race-courses. From the stud we were driven to the wine-cellars, excavated to a great depth in the face of a limestone hill. A band of the famed Hungarian gipsy musicians was awaiting our arrival, and played a large selection of their more celebrated pieces whilst the guests wandered freely through the vineyards or tested the quality of their produce in the cellars. Some of the Hungarian wines are magnificent, the red wines being of full body, smooth, and carefully prepared. It is tantalising to be told that red wines of the best qnality which would cost 5s. or 6s. per bottle in this country can be bought for 50 kreuzer, or less than 1s., in Hungary. We entered the cellars, which are of vast extent, and climbed to the top of the great tun, nearly twenty feet from the ground. This used to hold the annual contribution of wine from the tenants on the estate, and is said to have a capacity of 187,000 litres, or nearly as much as the famous Heidelburg tun. Emerging from the cellars, we again entered our carriages, and were taken back to the castle to view a performance in the Count's private theatre. Immediately at the close of this dinner was served—toasts were drunk to our host, and speeches made by members of the different nationalities present. By nine o'clock all the guests were conveyed back to the station, where a special train was awaiting them, and at 11 p.m. Budapest was safely arrived at.

Our visit to the pig-fattening establishment was more interesting from a professional point of view. Though this is only one of several in the neighbourhood of Budapest, it seldom contains less than 200,000 pigs at one time. We were driven thither in cabs provided gratuitously by the Congress, and found the place decorated with flags, and surrounded by a motley and picturesque crowd of Servian, Roumanian, and Hungarian swineherds, all in native costume, and in many cases accompanied by their wives. They seemed to find us quite as interesting as we found them. The first remark made by most of the company was, "How little smell there is!" Considering the close proximity of 200,000 pigs, the absence of smell was wonderful. The directors of the limited company which manages this great porcine town were waiting to welcome us, and immediately after shaking hands and entering our names in a very handsome book kept for the purpose, we were marshalled into the receiving department.

This comprises a number of pens, communicating on one side with with railway sidings, and on the other with inspection yards. The pigs, which come from Roumania, Servia, and all parts of Hungary, arrive in great double-decked railway-carriages, from which they descend by elevated platforms and inclined planes, and are driven into one of the receiving pens. From here they pass one by one to the inspecting pens, where the veterinary surgeons await them. A stalwart attendant keeps the door, and only allows one pig to enter at a time. As the animal rushes in, a second attendant, with a degree of dexterity born of long practice, grasps him by his furthest away quarter, and throws him down. The pig squeals furiously, and struggles to right himself, but before he can get up sufficient momentum to roll over, the man kneels on his exposed shoulder, thrusts a stick, about 30 inches long, into his open mouth, and, resting its end on the ground, uses it as a lever to turn the pig's head upwards and backwards, until it comes to rest nearly over his (the pig's) shoulder. Thus fixed he can neither squeal nor bite. Another man at once comes forward, inserts his left hand into the pig's mouth, and draws forward his tongue which he grasps with a piece of flannel held in his right hand. The veterinary snrgeon then comes on the scene, and taking the pig's tongue in one hand examines it and the frænum linguæ for swellings which would indicate the presence of Cysticerci, at the same time he looks for signs of foot-and-mouth disease. If "measly" the pig is condemned and slaughtered—if approved he goes forward to the quarantine pens, where he must pass a period of one to two months before mingling with the other stock. For some time the pigs are fed on whole maize but as they become fatter a diet of ground maize and barley meal made into mash is substituted. The animals are housed in long open sheds roofed with tiles and about 4 ft. high at the eaves, 6 ft. at the ridge. These sheds are divided off into sections by cross walls, and each has an open yard some 20 ft. square in front, provided with feeding troughs and a shallow bath. Many of the animals seemed to take up their residence permanently in this bath, and it was surprislng how clean they appeared and how free from insect torments. The yards are paved with brick and covered six inches thick with sand. Walking round we noted the mill where the maize and barley are ground and learned something of the system adopted. The establishment is the property of a limited company which also owns most of the stock, but private owners can send their pigs here to be fattened or can hire pens and provide their own food. The average price of fat pigs at the time of our visit was from 41½ to 44 Kreuzer per kilo, nett weight, but prices vary with the various kinds, viz., native Hungarian, Servian or Roumanian and with the size. Maize and barley are about six florins, 20 Kreuzer per 100 kilos.

The daily account is interesting:—

Stock on 31st August, 1893		184,147
Arrivals from Inland	12,527	
,, ,, Servia	5,802	
,, ,, Roumania nil		18,329
		202,476
Deliveries to Budapest	4,640	
,, ,, Inland	1,506	
,, ,, Vienna	696	
,, ,, Austria generally	2,728	
,, ,, Germany	9,468	
,, ,, Soap factory	94	19,132
Remaining stock		183,344

Large numbers are sent to Vienna, Dresden, and Berlin.

The tour of inspection was brought to a close by a bountiful lunch; a few speeches were made, compliments exchanged with the directors, and seeking our cabs once more, we were soon whirled back to our respective hotels. Many other places we visited, and did time permit I could describe to you the various novelties we saw. I fear, however, I have already trespassed too far on your patience and good humour, and, therefore, whilst thanking you for the kindness with which you have heard me I gladly allow the curtain to descend on this veracious history of the doings of your delegate at Budapest.

Mr. HURNDALL: I take it that a report of this description does not come under the category of one that should be subjected to any criticism. Therefore, I do not think we can do better than acknowledge our indebtedness to Mr. Dollar, who has proved so able a delegate on our behalf. With his natural modesty, he referred to reasons for his selection as our delegate which may have struck him, but which never struck anyone who mentioned his name in connection with this International Congress. I am sure, without speaking in a derogatory manner of the other members of this Society, no one was so well qualified to represent it at the Congress. Without taking into account any other of his qualifications, we must all recognise his great linguistic ability. Personally, I feel that we are very much indebted to him for the interesting account of the proceedings which he has given us. It was only such a report as we anticipated from him, because we all know what his abilities are. I take it that I am not out of order in proposing that our hearty thanks be accorded to Mr. Dollar for his services as our delegate, and for the able, careful, and interesting report with which he has supplied us of the Congress proceedings.

Mr. O. E. REDDISH seconded the motion, which was carried unanimously.

Mr. DOLLAR, in thanking the meeting for the compliment, disclaimed that there was any special merit in his report or that the document might not have been written by any of his fellow-members.

The Next Meeting.

In reply to Mr. Edgar, the CHAIRMAN announced that at the next meeting of the Society in January, Vet.-Capt. Butler would read a paper on "The Legal aspect of Soundness" and the discussion on the paper would be opened by Professor Penberthy.

The proceedings then terminated.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 48.)

THE symptoms of anthrax are, I fear, often regarded as of little practical importance. It is usually said that the V.S. is called to see an animal which is dead before he arrives; and we have come to regard our function as simply that of making a *post-mortem*, and declaring the existence or non-existence of disease. I allow that often the practitioner does find his patient dead on arrival, but I think, under ordinary conditions, it is not uncommon for him to be called, after no long interval, to find a similar state of affairs, for which he was as unprepared as his client. In connection with the clinical aspect of anthrax, I think two assumptions have conduced to this. These assumptions, which I believe are unwarranted, depend on the view that anthrax is always fatal, and that there are no early signs of the disease. That both are wrong, my experience has amply proved. In the first place, I have known many animals recover; and in the second, I have found with an animal in apparent health, the temperature very high some time before death. It cannot be doubted that in this country, in the majority of instances, we are

called to the case of an animal which has been observed to die suddenly, or to have been found dead. Occasionally, however, there is time for the veterinary surgeon to see affected animals alive. This may occur under two conditions, the one in which an animal has been noticed by owner or attendant to be unwell before his arrival; the other comes under his observation on inspecting a herd, of whose number one or more have previously died.

During the incubation of the disease, from 30 to 40 hours after reception of the virus, there is little to be noticed saving a rise of temperature, usually ranging from 104 to 108 F. Rigors and muscular twitching are often present, restlessness, excitement are noticed in some instances, usually depression is evident. The appetite is occasionally maintained within a few hours of death. The respiratory acts are generally excessive, and sometimes in cattle associated with grunting. These may be noticed in all manifestations of anthrax, but other symptoms arise in relation to the parts specially affected. Swelling of the throat, etc., in pigs and horses, is the rule, and sometimes in dogs. In affections of the spleen and intestines, the extremities are cold, colicky pains are sometimes manifested, and blood and mucus, which contain bacilli, are passed by anus, nostrils and mouth. The urine may also contain blood and the bacillus. Symptoms like those of cerebral apoplexy and convulsions may be predominant. Sheep sometimes leap into the air, fall and exercise convulsive movements with their limbs. The visible mucous membranes manifest the de-oxygenated condition of the blood, and are said to often show signs of hæmorrhage. I have rarely observed these latter. I am, however, disposed to the view that without a history of existence of the disease, or microscopic examination of the excreta of the living, or the carcase of the dead, we have no means of certainly diagnosing anthrax. The examination of blood taken during life has not proved satisfactory; the bacilli in many cases have not been found in the superficial vessels within two or three hours of death.

The differential diagnosis of the disease is, however, an important matter, and in order to make perfectly sure, it is necessary to demonstrate the micro-organism. We have referred to the characteristics of the bacillus. Those of malignant œdema black quarter are easily distinguished in simple slide. Anthrax is a contagious disease easily communicated to other small animals, and, by inoculation, is thus easily distinguished from mineral or vegetable poisoning. Though, in the majority of cases of splenic apoplexy, the gross changes at *post-mortem* will convince the experienced practitioner, when any doubt exists the question must be settled by microscopic examination, culture, or inoculation experiment.

In dealing with anthrax, the veterinary surgeon is not only concerned with the affected, but with the healthy—with the present existence of the disease, and its prevention in future. His first case will probably involve *post-mortem* examination. It is unnecessary here to say this entails consideration for his person, and the use of measures for preventing the spread of the virus. It is of primary importance to use all means to discover the source of the virus, a task often very tedious and unsuccessful. When we realise how easy it is for a micro-organism such as the bacillus or spore of anthrax—which latter lives for indefinite periods outside the body of the affected animal—to be conveyed to healthy animals, we must be convinced of the difficulties which surround this part of the subject. Corn, cake, hay, grass, green-crops, malt, water, flies, dogs, birds, earthworms, attendants, horses—in fact, anything having substance may serve as a medium. We may, however, occasionally be able to trace the poison to a pasture, a shed or pond, a certain article of diet. It will always be well to investigate a case, so as to discover a possible connection with any special diet or situation, and under any circumstances, when the origin is not discovered, to try a complete change of diet and

situation. The difficulties here are not easily overcome. If a pasture is contaminated, it is often impossible to determine the exact spot from which the virus is derived, and, as all herbivorous animals are susceptible, the task of dealing with the field is almost hopeless. Old graves may be searched for and fenced off; but frequently their situation cannot be found. This contamination of soil proves to the practitioner a source of great difficulty in giving advice to clients. The ploughing of old pastures is often impracticable, and associated with it is always the danger arising from the chance of bringing up spores lying beneath the surface. I have, however, known the adoption of this means successful in rendering notorious pastures harmless.

In this dilemma, we now naturally ask ourselves—can the animals of the farm be protected so as to render their grazing on such pastures safe? The exponents of protective inoculation in foreign countries answer in the affirmative. About twelve years since, Pasteur introduced a system which appears, from statistics, to have had a wonderful effect in reducing the losses from anthrax in France and elsewhere. The number of animals inoculated may be counted by millions, and the reported decrease of mortality is immense. My own experience has certainly been very favourable. It is important to remember that this vaccine contains the living anthrax bacilli, thongh it is claimed that they are attenuated by cultivation under special circumstances of temperature, etc. From Pasteur's public experiments, my own, and the statistics referred to, there is little doubt in my mind that a degree of immunity is conferred. This is stated to last about twelve months. In considering this, we must take a practical view. Under natural conditions, it is not likely that an animal will ingest large quantities of anthrax bacilli or spores at a given time, so that we must be careful in drawing conclusions from laboratory experiments in which cultures containing immense numbers of bacilli and spores have been introduced at once into the systems of vaccinated animals in order to test the effects of vaccination. The great apparent objections to this plan of inoculation depend on the fact that in certain cases, which, happily, have been very rare, several deaths, especially of sheep, have followed very soon after the inoculation, and appear to result from it. This erratic behaviour of the vaccine has not been satisfactorily explained, though it may have some connection with recrudescence of the virus, owing to carelessness of the veterinary surgeon or in the manufacture. I have used Pasteur's vaccine on several hundreds of cattle and horses without harmful results; but I think it advisable, before undertaking the operation, to inform the clients, and state fairly the case.

There are further means of preventing recurrence of anthrax which depend on our knowledge of the life-history of the bacillus and spore, and their relation to the carcase, etc. *Post-mortem* examination involving opening the animal should only be carried out when absolutely necessary. This can very rarely be the case. It is important to remember that putrefaction will soon render the case inert, and if it can be buried intact where it is found, after the excretion and discharges have been subjected to disinfection, as by crude carbolic acid, vitriol, etc., no danger need be feared. There is, however, no law to prevent a *post mortem* examination, and should this be decided on, the greatest care should be observed and precaution given to anyone engaged in the operation. The hands and arms of any servant employed to skin or cut up the carcase should be examined, and if any chaps, cuts or abrasions exist such an one should not be allowed to assist at the operation. If it is found necessary to cart or drag the carcase to a suitable spot for burial, means should be adopted to prevent the escape of blood, etc., from the mouth, nostrils, or anus; carts, tools, etc., should be immediately disinfected. Burning the carcase would of course be effectual in killing the virus if the carcase could be placed bodily into a crematorium, but in the great majority of cases it would

be necessary to cut it up before burning, a plan not free from danger of contaminating the situation. It would prove a very useful rule that no carcase of an animal dying suddenly and mysteriously should be opened except by a veterinary surgeon. It is my opinion that the improper treatment of such carcases is liable for the existence of this disease in an enzootic form.

If we are not able to satisfy ourselves as to diagnosis without microscopic research, and this is often necessary, blood for examination should be taken from superficial vessels, and care taken that no more is spilt than is necessary for an examination. We have seen that putrefaction is most likely to be fullest advanced and consequently the bacilli fewer in the internal organs. Should it be desired to send any part for expert examination, the part suggested by Professor McFadyean—an ear or hoof—would be quite sufficient, and probably more satisfactory than portions of the spleen, which is early affected by putrefaction change. Any spilt blood should then be disinfected with strong carbolic or sulphuric acid, also blood passed by the anus, and spume from mouth and nostrils. If death occurred indoors, manure, straw, etc., should be burnt and the place disinfected. The carcase then must be buried according to the law. The lime which is ordered probably may be useful in destroying any virus which may escape from the animal, but otherwise it is unnecessary, and if it retards the process of putrefaction cannot be said to be of much value as regards the infected carcase. This being done there is little to be feared from that cadaver.

Hay is regarded by some to be less likely to convey the virus than grass fed off. Only one instance have I been able to apparently trace ill-effect to hay, though I have had under observation several fields grazing on which was fatal to the cattle.

Cakes are often accused of causing anthrax. I do not know of any positive evidence on this point, but if anyone would demonstrate the presence of the bacillus anthracis in cake, it would be decisive for that case. I have known several instances in which, when cake has been stopped that the disease has ceased, but on this account we may not attach the blame to the cake, for the common experience is that in the majority of cases only a few animals succumb, and that when more than one dies, death often follows closely on each other. Possible contamination from woollen, bone manufactories may not be lost sight of.

Slaughter of in contact animals is only called for in most exceptional instances. The advisability of slaughtering animals is not so clear to me as it would appear to be to some. A writer has recently stated that all animals having a temperature of 105 should be dealt with as infected animals and destroyed. If it were a fact that every case of anthrax were fatal, or even that during the attack an animal was liable to spread the disease, as in pleuro-pneumonia, cattle-plague, or foot-and-mouth disease, this would probably be the correct course to adopt. But we know such is not the case.

The Professor narrated the circumstances of an outbreak occurring six years ago, in which four animals, including a bull worth about £500 and a steer which took a prize at the following Smithfield Market, recovered after indicating temperatures of from 106 to 108. The utmost precautions were taken as to destruction of litter, disinfection, and as a matter of fact no animal on this farm has been affected since. To have destroyed these evidently affected animals would have entailed serious loss and have done no good.

Having satisfied ourselves of the existence of anthrax and considered the mode of infection, our next care will be to separate the healthy from the diseased. This can only be done by aid of the thermometer. It is important that, as some will probably succumb and that all will discharge the virus by fæces, urine or other excreta, they should be kept in some place that can be disinfected. Such agents as alcohol, quinine, carbolic acid, iodine, perchloride

of iron, mineral acids, small doses of corrosive sublimate may be administered internally. Should there be any evidence of an external seat of inoculation this may be excised, or incised and cauterised with the hot iron or strong antiseptics, as pure carbolic acid. Hyposulphits of soda is much estimated by some, but I have been unable to observe its curative effect. Bleeding should be eschewed. Spontaneous recovery is by no means rare.

It is not necessary to speak of the danger to man of flesh from animals affected with anthrax.

I stated at the commencement of this paper that it would be difficult to say anything new to this Association concerning anthrax. I think there has been a disposition to regard it as a comparatively new disease, altogether fatal, impossible to diagnose during life, and after death marked by generally distributed extravasations, and that an abrasion or wound is essential to the entrance of the virus. Some have thought it necessary to slaughter in contact as well as infected animals. My views on these and other points have perhaps differed from those of others who have recently expressed their opinions. I now conclude my remarks as I commenced them—in anticipation of gaining from expression of your experiences.

Discussion.

The PRESIDENT: I am sure we are all extremely indebted to Professor Penberthy for the very able address he has given us on anthrax. We have had a good many cases of this disease in the different Ridings, and I thought it would be interesting to all of us if Professor Penberthy would address us upon this subject. This disease is of special importance to stock-owners. You will observe that the Professor repeats the advice we have previously heard, that the best way to treat an animal which has died from anthrax is to let the carcase alone and not open it. Personally, I cannot speak with any great degree of knowledge of anthrax in this country. I have had many cases of it in India where it is known by the name of Loodianah Disease. The high temperature has been referred to, the colicky pains, and swollen necks. I have noticed a discharge from the nostrils, and in some cases from the eyes. It is of a more lasting character, and in some cases continues some length of time. It was always a mystery to the veterinary officers how the animals had become inoculated. Sometimes we were of opinion that small sandgalls being brought from the flies settling on these animals from the neighbouring compounds of native cattle. I was most interested in the attempt to prove that it can come by ingestion. I was struck with what the Professor said with regard to colic and anthrax, when he spoke of these deep citron purple-coloured swellings in the intestines. We found those in cases of horses that died from colic in India. You may remember in my presidential address I called attention to the waste of the ratepayers' money by the destruction of animals which had been in contact with those which had died from anthrax. I said at the time it was totally unnecessary to destroy such animals. I suppose that we are such a wealthy nation that we can go on destroying these good animals. I must thank the Professor for coming here as a personal friend of mine, and also on your behalf for the long, exhaustive, and interesting and scientific work he has placed before us to-day.

Mr. COOKE: There is only one thing I should like to say with regard to this paper. The Professor sticks to the analogy between the symptoms of animals afflicted with anthrax and those fed on a certain line. I believe I have remarked it before at these meetings. Some time ago I attended some animals under twelve months old showing symptoms of anthrax. The veterinary surgeon in attendance was suspicious it was anthrax, and each and every symptom pointed to the conclusion that he was right. On making further inquiries, I found the animals had been fed on cotton cake. I don't

think it is any uncommon thing for animals to show these symptoms if fed on this material. I don't think it is a suitable food for young stock.

Mr. CARTER expressed the pleasure it had given him to listen to this paper, and said, in his experience of anthrax, he had always found a swelling in the throat.

Mr. COLLINS: Supposing a country practitioner was called out to a case without knowing the history, and when he arrived he found it dead. What would his mode of procedure be, having no suspicion, as to making a microscopic examination or a *post-mortem*.

Professor PENBERTHY: Cut off one ear and put it in your pocket, and examine the blood microscopically.

Mr. SOMERS: We have had in Leeds, within the past week, a case of wool-sorters' disease for the first time. The man had been sorting Australian wool. He died in three days.

Mr. THOMPSON: I had an outbreak at a farm some few days ago. In the first case there was high temperature (close upon 107), swelling about the throat, and great difficulty in breathing; oozing of blood from the nostrils; dark-coloured fæces, tinged with blood. She died three or four days after I saw her. The following morning I noticed another going wrong; she was dead within four hours. The third was about the same as the first, and there was nothing special about the other three. None of the lot lived above eight hours, the average being about four and a-half to five hours. There had been no fresh stock brought on the premises for eight or nine months. No fresh feeding stuff or fodder; in fact, nothing fresh except some artificial manure last May, and I have reasons for thinking some of the materials it contained consisted of animal refuse imported from Egypt, and this might have caused the disease. A *post-mortem* examination was made in one case, and it showed the clearest indications of anthrax. Two animals had very high temperature, and they recovered without any treatment whatever. The animals were eating nothing but grass.

Professor PENBERTHY: It seems to me there is very little to reply to. Mr. Thompson tells you that two of his cases recovered; that is about my general experience. Anthrax is not an absolutely fatal disease. With regard to manure, I have known instances where broken bones have caused laceration, which has been the means of the inoculation of the subject. The duration of the disease, he tells us, was about four hours. Possibly, had he been called in two days before, he would have found the temperature of the animals that died very high. The case of wool-sorters' disease which had been referred to is very interesting, especially as it is the first case which has occurred in Leeds. With regard to Mr. Cooke's remarks, I am disposed to the view that cotton-cake occasionally carries with it some poison. It is not unusual to find nine-month-old cattle dying from eating cotton-cake. I was very glad to hear Mr. Mason's remarks about anthrax in India. It is possible that the horses had got inoculated with spores.

The proceedings then terminated.

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

THE general meeting of this Society was held at the Bush Hotel, Carlisle, on Friday. Mr. Pears, Penrith, the President, occupied the chair, and there were also present Mr. W. Awde, Stockton-on-Tees (who was announced for a paper on "The Veterinary Profession: Its Present Position and Future Prospects"); Mr. Carlisle, Mr. J. J. Bell, Carlisle; Mr. Howe, Keswick; Mr. McIntosh, Dumfries; Mr. H. Thompson, Aspatria; Mr. Garnett, Windermere; Mr. Hewson, Mr. McKie, Carlisle; Mr. Soulsby, Cockermouth; Mr. Little, Abbey Town, and Mr. J. Armstrong, Penrith, hon. secretary.

The SECRETARY read a letter from Mr. Greaves, apologising for non-attendance, and expressing to this Society the good financial position of the Mutual Benevolent and Defence Society, and asking to enrol members.

Mr. BELL thought the Society was a very good thing, and said if he had to start life over again he would certainly become a member once more. It was a serious matter for a man to fight a case unless he had private means, and he thought the Society was a very good thing for all young men.

Mr. THOMPSON said it was a great advantage for young men to have a society like that at their back.

The late Professor Walley.

Mr. ARMSTRONG moved that a letter of condolence, drawn up in the usual way on parchment and framed, be sent from the Society to Mrs. Walley and family on the death of Professor Walley, which occurred a few days ago. It needed no words from him to say how great an ornament the Professor was to his profession.

Mr. BELL seconded the motion, and said it was the least they could do to send such an expression of their feeling in the matter to the widow and family of the deceased Professor. He had stood very high in his profession, and was also a great friend to the Society.

Mr. THOMPSON supported the motion, and said the members would call to mind that Professor Walley gave the Society a paper on "Anthrax" at their last meeting. He was not looking well then, and he had gone down gradually ever since. He would be a great loss in the profession, and all would hear the news with the deepest regret.

Mr. AWDE said the profession had lost a real good man by his death, and the students, particularly of Dick's College, a good friend. He had the welfare of each individual student at heart, and he was always ready to put his services forward, and to the best interests of the profession, which had now lost one of its brightest ornaments.

Mr. HOWE said Professor Walley was at College when he was there, and he felt his death almost as that of a near relation. He was ready to give advice whenever asked, and no doubt he would be very much missed.

The PRESIDENT said he endorsed everything that had been said; and they would all be unanimous in sending the vote of condolence to the widow and family of the late Professor.

The motion was then agreed to.

New Member.

Mr. ARMSTRONG nominated Mr. Threlkeld as a member of the Society, and Mr. H. THOMPSON seconded the motion.

The New President.—The Retiring Secretary.

The PRESIDENT intimated that he desired to nominate as his successor in the office, Mr. Soulsby, of Cockermouth.

Mr. ARMSTRONG seconded the nomination.

Mr. THOMPSON said he was not aware whether any steps had been taken in this matter, but he wished to point out that the Secretary, Mr. Armstrong, after nine years' service, had decided to retire, and he thought the least they could do as a Society was to appoint him president for the ensuing year. It was the smallest recompense they could give him. He would propose that Mr. Armstrong be the president for the year.

Mr. ARMSTRONG said that he had had nine years' intimate connection with the Society and its affairs, and he would certainly for a year or so remain quiet. He had only missed half a meeting during that time, and he would rather have a little liberty for a short time. He thanked the meeting kindly for their feeling towards him.

It was then agreed that Mr. Soulsby be the President for the next year.

Mr. SOULSBY expressed his thanks to the meeting, and observed that hitherto he had been a delinquent in regard to the attendances, but it was owing to circumstances over which he had no control.

On the motion of Mr. BELL, Mr. Pears was placed on the list of Vice-Presidents, and Mr. Armstrong was also added to the list. Mr. Thompson was re-nominated Treasurer, and Mr. Hewson was appointed to the office of Secretary in succession to Mr. Armstrong.

In moving the acceptance of the resignation of the latter, Mr. Thompson observed that Mr. Armstrong had worked very hard for the Society. The post was not a very nice one, and he had a lot of work to do, and got "more bats than ha'pence." They accepted his resignation with great regret, and he proposed a hearty vote of thanks to him, and hoped it would not be long before he assumed the presidency.

In reply, Mr. ARMSTRONG pointed out that the post of Secretary was one which ought to be passed on from one to another. He had "played his tune" in securing the services of leading lights in the profession for their meetings, and someone else should take up the matter. He thanked the meeting for the kind remarks on his services, and said he would give his successor whatever assistance lay in his power in furthering the interests of the Society.

The Position and Prospects of the Veterinary Profession.

Mr. W. AWDE, F.R.C.V.S., Stockton-on Tees, read the following paper on "The Veterinary Profession : Its Present Position and Future Prospects."

Mr. President and Gentlemen,—Knowing from personal experience the great difficulty that Secretaries of Veterinary Medical Associations have to contend with in persuading their members to introduce subjects for discussion, and having on a previous occasion refused your Secretary when he did me the honour to ask me, I felt it would be ungracious on my part to again wish to he excused when he asked me to provide a paper for this meeting. My consent was given with great reluctance, however, because in the first place it is always difficult to decide what subject to take which would be of sufficient interest to the members themselves that each would take part in the discussion and in the second, because of the consciousness on the part of the essayist of his inability to make the most of the subject when chosen.

My reason for electing to consider the present position and the future prospects of the profession was suggested to me by being its Jubilee year since the Charter was obtained just fifty years ago, and also an account of some newspaper correspondence which has lately appeared as to the wisdom or otherwise of the reforms which have been introduced by the council, of the Royal College of Veterinary Surgeons. The subject chosen cannot fail to be of interest to each one of us practising at the present time. It is one that we are all acquainted with and therefore in a position to say something about, and it is only by looking the defects of our present position fairly and squarely in the face and by free discussion amongst ourselves, that we can hope to influence the introduction of those reforms which we consider to be essential to the future welfare of our profession.

At the outset it will be necessary to say whether I approve of the recent reforms introduced by the Council of the R.C.V.S., and they are—first, higher education of the veterinary student before being admitted to his studies at the different colleges ; and secondly, the extension of the period of study to four years, and extra examinations.

I am one of those individuals who believe in the wisdom of the steps taken, for the simple reason that (as we live in an age of education), unless we go forward, we must slip backward. We must progress with the times in which we live ; there is no standing still ; and unless the veterinary student can

pass a sufficiently high educational test, the profession must deteriorate. In fact, I believe that it has not been instituted a moment too soon, and that in the past, members of the profession have suffered somewhat from lack of it. The principal arguments advanced against the extension of the period of study seem to be that it will now take six years to qualify (but in the case of good students, this will enable them to spend two years as pupil with a veterinary surgeon in practice), and that the expense will be so great that the likeliest men to make good veterinary surgeons of will never enter.

Suppose it did take six years, as suggested; that does not seem, to my mind, to be too long a time, considering that until a few years ago it was thought necessary to bind a youth seven years to learn a trade which is purely mechanical, and surely it ought to take an equal length of time to master the details of a profession like ours, considering the subjects required to be taken up at the present time, viz., chemistry and elementary physics, materia medica, pharmacy, therapeutics, toxicology, zoology, botany, anatomy, physiology, histology, morbid anatomy, stable management, veterinary hygiene, dietetics, pathology, bacteriology, principles of shoeing, meat inspection, and the principles and practice of veterinary medicine and surgery, in addition to which he must have a thorough knowledge of the habits of healthy animals, and be able to diagnose lameness and disease correctly, and, in order to successfully carry on a practice, will require some elementary knowledge of book-keeping and commercial training.

The other argument I believe to have nothing in it, and that the best men will enter, and qualify themselves, too, if they really wish to do so.

Having considered the present position of the graduates, it will be necessary to say something with reference to that of the practising members. No doubt the members of our profession, as a whole, are considerably in advance of what they were, say, twenty-five years ago, and have bettered their position very much, socially as well as morally; but there is room for still greater improvement. I shall proceed to consider this part of the subject by asking myself the following question: Am I satisfied with the position of the practising veterinary surgeon at the present time? And can honestly say that I am not, because about one-half of the members of the profession do not obtain a livelihood through practising their profession, but by means of what are called combined callings, which, to my mind, is subversive of the profession's best interests. These combined callings include shoeing-forges, horse dealing, livery stables, and the like. Forges I object to on two grounds: first, because they tend to lower professional charges; and secondly, because they encourage quackery. Most veterinary surgeons having a forge dress horses' teeth before their men in nearly all cases brought there, and afterwards, when the men obtain forges of their own, they think they know how to do it, and do so, to the detriment of the veterinary practitioner. There are other operations in the same way, such as docking, etc. If a horse is to be cast for an operation, how often are the men brought from the forge to assist, thus giving away knowledge to them which is afterwards repaid with interest. Nearly all foot cases are so treated, and seldom find their way to the proper quarter, on account of the farrier considering himself proficient enough to cut out a horse's foot and advise as to treatment, whereas their ignorance is often lamentable. Livery stables are not so detrimental, but, nevertheless, derogatory to a M.R.C.V.S., and horse-dealing still more so, because, no matter how honest and straightforward the veterinary surgeon carrying on such a business may be, it is utterly impossible for him to maintain his reputation for being square, because if he rejects a horse as being unsound, he is immediately accused of having done so in order to sell one of his own horses to the would-be purchaser.

Another cause of the unsatisfactory condition of the profession is unsuitable

men entering its ranks; and this is mainly due to there being no compulsory pupilage. Men enter the colleges without having seen a day's practice; they probably have an idea that they would like the life, and being advised by the principals of colleges (when written to for a prospectus), to do so, they pay their fees and enter on their studies; and after having got so far through, they then go out to see practice in the country, to find out that they are unsuitable for the work, and would never be able to earn salt, and be only a laughing-stock for their clients. It is quite time that a certificate was required by the examiners, stating that the various students coming before them had been pupils for a period of, say, two years, with a duly-qualified veterinary surgeon. If this was carried out, the members of the profession would take good care that only likely men were sent on to college, thus saving their parents money, and the profession the subsequent disgrace. Advertising is distinctly unprofessional, and gives the man who does so an advantage over his brother practitioner who does not, and it ought to be limited to the sending of a card or an advertisement containing practitioner's name, qualification, and address. Another evil existing at present which requires a remedy, is that of covering unqualified men, which is commoner than some of us seem to think. I know of a case at the present time, but the difficulty in proving such in a court of law is very great; but it is a state of things which ought to be remedied. and the punishment for such cases should be very severe. At present lectures on veterinary science to farmers and others are being given by veterinary surgeons all over the country, to which I do not object, provided that they are given on proper lines; but think that in some cases the county councils have made a mistake in selecting newly-qualified men for the task. There is a large amount of valuable information which an experienced veterinary surgeon could impart to farmers with regard to the rearing and management of stock, which a young veterinary surgeon would not know, because he has not proved for himself their absolute ignorance of even elementary knowledge of these things, and the points on which they require information.

Newspaper articles, such as have appeared in the *Yorkshire Post* and *Leeds Mercury*, are a mistake, and only tend to the advertising and glorification of the individuals who write them, and do a certain amount of harm to the practitioners in the neighbourhood where the papers circulate.

Medicine Vendors.—Veterinary surgeons suffer very much (particularly in country districts), from medicine vendors, who hawk their medicines about by means of agents, and it is very rare indeed, in the country to be summoned to attend a case, but what the poor animal has been drugged with some of these so-called specifics. No doubt, at one time they supplied a want on account of the long distances which veterinary surgeons were away, and they must have something to be going on with until he came. But now the prevailing idea seems to be to try all the available remedies, with a view to save sending for the veterinary surgeon at all. I think the time has arrived when the Government of the day might, with advantage, impose a duty on all those so-called specifics, which would assist the revenue of the country, and help us to pay our way.

The present position of the army veterinary surgeon is eminently satisfactory, thanks, no doubt, in some measure, to those gentlemen who have held the office of principal veterinary surgeon to that department.

I wish as much could be said with regard to our position on the Board of Agriculture. Since the resignation of Professor Brown, the work of the department has been carried on by two members of the profession instead of three. There is thus an opening lost to the profession by the change, and not only so, but the Chief Travelling Inspector who, in Ireland, is a M.R.C.V.S., in this country is a layman, and so are all the staff, which is an anomaly

hardly creditable to the Government, or of the times in which we live. I am quite sure that if veterinary surgeons had been appointed at the time, to take in hand those duties which have devolved upon the present travelling inspectors in dealing first with outbreaks of pleuro-pneumonia, and now with swine fever, that the country would have been considerable gainers by the transaction. As it is, the dilatory way in which the Board of Agriculture has attempted to deal with the present outbreak of swine fever, has brought it into contempt all over the country, and made it a laughing stock.

Future prospects.—With regard to the future it seems to me that although there has been a falling off in the number of students entering the colleges as a whole during the year just ending, this is easily accounted for by the large increase which took place just before the new regulations came into force, with a view to evade them, but consider that in a short time they will resume somewhere near their normal proportions. If graduates continue to be turned out from the various colleges at anything like the same rate as heretofore, they will experience great difficulty in the way of making a livelihood, and in order to do so they will have to locate themselves more and more in the country villages. There has been a great deal of talk lately, and it is one of the problems yet to be solved, as to how to bring the agricultural labourer back to the land, but my firm conviction is that instead of the future veterinary surgeons flocking in such large numbers to the good-sized towns, that they will have to betake themselves to the small villages where they will be able to rent a suitable place for their purpose with a few acres of grass land at a very cheap rate indeed. But in order to do this the graduate will have to be prepared for the change and will have to be a thoroughly practical man and able to handle animals well; his knowledge of the domesticated animals other than the horse will require to be very much extended in order to make the most of himself. He will require to be an expert operator, able to castrate all animals and even fowls, and well up in obstetrics especially. In my opinion this can only be done by the enforcing of compulsory pupilage (mentioned previously) of two years with a properly qualified M.R.C.V.S., who should be limited to take no more than two pupils at one and the same time. As the registered practitioners die off, openings will present themselves for qualified men all over the country, and if the right class of men are forthcoming I have no fear of the result. At first possibly they might have to put up with low fees, but when the public (who require educating up to the point of employing duly qualified men instead of empirics) find the right material close at hand to select from, and that they get good value for their money, it will not take them long to make up their minds as to whom they should employ.

I am hopeful that in the future veterinary surgeons will be employed at each parturition case, particularly in the larger animals, mares especially, and believe that it will ultimately pay the owner to do so. They are opening their eyes to the fact that it pays to insure an animal against foaling risks, and am therefore hopeful that the other will come in time. I believe that in the future the line will be more clearly drawn between the town and country practitioners, and that those intending to practise in either capacity will have to stick to either the one or the other as their inclination leads them. The best man, no doubt, for the country practitioner is a farmer's son, and if he can combine farming (which seems in a bad way at present) with the practice of his profession, he is qualified to make an excellent living, and as far as I can see bring no discredit on the profession to which he belongs. As the general public become better educated in sanitary matters, I have no doubt that private slaughter-houses will be abolished and abattoirs set up instead in all large towns, and that when this is done meat inspection will be required at the hands of the town veterinary surgeon, who will also be required to

inspect periodically the dairy cows, and the buildings in which they are housed.

(*To be continued.*)

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual Quarterly Meeting of this Association was held in the North-Eastern Hotel, Darlington, on Friday, December 7th, 1894, at 4 p.m., Mr. Alfred Peele, President, in the Chair. There were also present: Messrs. J. G. Deans, P. Snaith and H. H. Roberts, Bishop Auckland; C. G. Hill, Darlington; J. E. Peele, Durham; G. E. Gibson, Sedgefield; and W. Awde, Stockton-on-Tees.

Apologies for non-attendance were received from Professors MacFadyean and Williams, Messrs. Thomas Greaves and Henry Thompson.

Mr. PEELE, Sen., moved, and Mr. HILL seconded, that the minutes be taken as read and confirmed. This was carried.

The PRESIDENT moved, Mr. Roberts seconded, and it was carried unanimously, that the best thanks of the Association be accorded to Mr. Deans for his conduct in the Chair during his year of office.

Mr. DEANS read an article, which had appeared in an illustrated paper, on Bishop Auckland and neighbourhood, with reference to himself; but it was unauthorised by him, and he disclaimed all responsibility in connection therewith. Mr. Snaith also stated that he had been canvassed by the same firm who brought the article out, but he had declined to associate himself with them in any way.

The SECRETARY reported the receipt of a newspaper from the Yorkshire Association, containing one of a series of articles which were appearing weekly in the *Leeds Mercury*.

After some discussion, Mr. SNAITH proposed, and Mr. HILL seconded, that the Secretary be instructed to write to the Yorkshire Association, stating that they quite agreed with the action they had taken, and that they thought gentlemen in the position of Professor Axe should not lend themselves to work harm to the other members of his profession.

The adjourned discussion on Professor MacFadyean's paper on "Glanders" was then taken. Mr. Gibson, having had a case since the last meeting, gave the members all the information he could as to its history, progress, and the development of the disease until the animal was destroyed. He also exhibited the Schneiderean membrane, which showed the ulceration very clearly and was well marked.

Mr. ROBERTS reported that he had made a *post-mortem* examination on a pit pony, the liver of which weighed 25 lbs. He also related a remarkable case in a pony which fell in the pit, and behind a certain place in the dorsal vertebræ there was no sensation at all, and the posterior extremities paralysed; and the conclusion he came to was that its back was broken, and he ordered it to be destroyed. Before doing so, however, the pony was turned over on to the other side, when it got up and went to the manger to feed, as if nothing were amiss. The pony was also sensible to pain on puncture behind the place where the suspected fracture was. It was off work some time, and he formed the opinion that there must have been dislocation with pressure on the cord, and by turning the pony completely over it had been put right.

A letter was read from the Secretary of the R.C.V.S., asking what the Association intended to contribute towards the funds of the British Institute of Preventive Medicine; but after some discussion on the matter, it was decided to allow it to stand over until they had some more definite information with regard to the working of the Institute.

The adjourned discussion on Mr. H. Thompson's paper on Parturition was then taken, and after several members had spoken on the subject, the Secretary stated that the President and himself had been put on the Jubilee Memorial Committee, and he hoped the members would subscribe to it.

The PRESIDENT then nominated Mr. Joseph Smith, M.R.C.VS., Stokesley, and Mr. Henry Peele, M.R.C.V.S., Durham, as members of the Association; seconded by the Secretary, after which the meeting closed.

W. AWDE, *Hon. Sec.*

GLASGOW VETERINARY COLLEGE.

AT the Christmas Examinations, on the 17th and 18th Dec., the following gentlemen passed in Class A, or 1st Professional Examination:—Messrs. J. W. Conchie, Wolverhampton; D. Forwell, Greenock; P. McKinlay, Alexandria; A. Fraser, Largs; R. Peddie, Cathcart; J. C. Erskine, Bridge of Weir; R. Porteous, Maybole. The following gentlemen passed the B, or Second Professional, Examination:—R. McDonnell, Ballycastle, Co. Antrim; G. Thomson, Rusherford, Durham (1st class honour); W. A. Campbell, Barr, Ayrshire(2nd class honour); J. Brown, Airdrie (2nd class honour); J. McLean, Largs (2nd class honour); W. Neilson, Helensburgh; A. Sullivan, Govan (2nd class honour); R. Mitchell, Glasgow (1st class honour); H. MacVean, Duntocher (1st class honour). The following gentlemen passed in Class C, or Final Oral and Written Examination:—Messrs. J. H. Wilson, Glasgow; J. Gorman, Cardiff; A. M. Macdougall, Irvine; A. Hart, Glasgow; D. Brown, West Kilbride; D. Wylie, Stewarton, Ayrshire. The following gentlemen passed in Class C, Practical Examination, and were admitted members of the Royal College of Veterinary Surgeons:—Messrs. J. H. Wilson, Glasgow; J. Gorman, Cardiff; A. M. Macdougall, Irvine; A. Hart, Glasgow; D. Brown, West Kilbride; D. Houston, Port Glasgow; J. Hill, jr., Glasgow; and H. McCartney, Neilston, Renfrewshire.

SUFFOLK HORSE SOCIETY.

A COUNCIL meeting of this Society was held at the Town Hall on 2nd January. Mr. Thos. Girling presided, and the other gentlemen present included. Mr. Alfred J. Smith, Mr. Jas. Toller, Mr. J. A. Hempson, Mr. Horace Wolton, Mr. R. H. Wrinch, Mr. H. Showell, Mr. D. F. Smith, Mr. Wm. Wolton, &c.

It may be remembered that some dissatisfaction was expressed at a former meeting in reference to the disqualification of prize-winning Suffolks at the Royal Show by the veterinary examiners, and an opinion was expressed that the exhibitors should be made acquainted with the names of the gentlemen employed as examiners of the exhibits, and that there should not only be an examination of the stallions and brood mares, but of fillies as well.

The SECRETARY (Mr. Fred. Smith) read a letter he had received from Mr. Ernest Clarke, secretary to the Royal Agricultural Society, as follows:—"I duly laid before the Council at their last meeting the suggestions contained in your letter of August 8th, in reference to the publication of the names of the veterinary inspectors at the Society's country meetings. The Council instruct me to inform you in reply that the names of the veterinary inspectors selected for the Darlington meeting will be published, together with the names of the judges, in the Society's journal on March 31st next. I am to add that it would be quite impracticable to indicate beforehand the particular classes allotted to each veterinary inspector. The Council do not see their way to adopt the further suggestion of your Society, that veterinary examination should extend to fillies as well as stallions and brood mares."

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

THE half-yearly general meeting of the governors and members of the Royal Agricultural Society of England was held for the first time in the Society's new house, 13, Hanover-square, W. The chair was taken by Sir John H. Thorold, the newly-elected president of the society.

The PRESIDENT, in opening the proceedings, congratulated the members upon assembling for the first time in their new premises. He could not allow this occasion to pass without reminding them of the efforts of the Duke of Westminster and Sir Walter Gilbey, both of whom had been most instrumental in enabling them to acquire the beautiful premises in which they were assembled on this occasion for the first time. Although they were very comfortably housed in their new quarters, they could not conceal from themselves the fact that their expenses in the future would be very much increased; and he trusted that they would not fail to exert themselves to the utmost to induce gentlemen to join the society, by which means alone could they hope to meet the increased expenditure which must of necessity arise. Concluding, he expressed the hope that the accession to their new quarters, which afforded many advantages, would lead to the additional success of the society which they all desired so mnch to see in the future.

The SECRETARY read the report of the council, which showed that the total number of governors and members now on the register was 11,247, or a net increase of 28 members since the same period last year. The Darlington meeting would be opened in June next, and the county meeting of the society held in 1896, at Leicester. The special committee appointed by the council to inquire into the nature and causes of abortion in cattle recommended that for practical purposes and with a view to the adoption of the necessary precautions the disease should be deemed to be contagious, and stated that the evidence laid before the committee justified the adoption of the antiseptic treatment. Scientific investigations into the causes of abortion in cattle were now proceeding at the Royal Veterinary College, under a special grant of £200, made by the council for this purpose. The efforts of the Board of Agriculture to stamp out pleuro-pneumonia had been successful, only eight outbreaks having occurred in the course of last year, as compared with 35 in 1892 and 192 in 1891. The record of this year was still more satisfactory, as only two outbreaks were reported—one in Kent, and a second at Hendon. In each case the slaughter of the infected herd arrested the further progress of the disease. Swine fever had continued, however, to prevail in various parts of the kingdom, in spite of the measures which had been applied for its repression. Recently, however, there had been a considerable decrease in the number of outbreaks in Great Britian. An outbreak of foot-and-mouth disease was reported in the last week of October, in a small herd of cattle on a marsh at Rainham, Essex. All the animals were immediately slaughtered and buried, and other precautions were adopted. Since then two outbreaks had occurred, in Cambridge and Kent. In both cases the precautions adopted were successful in arresting the spread of the disease. The restrictions on the movement and sale of animals had been removed, except in small areas round the infected places. A considerable number of cases of rabies have been reported in Lancashire and Yorkshire (West Riding). In the Department of Comparative Pathology and Bacteriology established at the Royal Veterinary College by the aid of a grant from the society, the work in the Research Laboratory had taken a wide range, including investigations on tuberculosis, diphtheria, anthrax, swine fever and allied diseases of swine, ringworm in calves, diseases of the joints of foals, and the use of mallien and tuberculin for the detection of glanders and tubercle in the earliest stage. The further experiments which had been made had materially strengthened

the evidence in favour of both agents as aids to diagnosis in doubtful cases of disease.

Lord TREDEGAR moved and Mr. GEORGE GIBBONS seconded the adoption of the report.

In the discussion which followed, Sir HENRY THOMPSON expressed the hope that the council would only consent to thoroughly competent shoeing smiths, who, in addition to being able to shoe a horse, knew something of the anatomy of the animal's foot, being registered, and that they would not adopt the proposition of the Farriers' Company that an inferior degree should be given a blacksmith who could only remove and affix the shoe.

Sir RICHARD PAGET suggested that the society might with considerable advantage take into consideration the desirableness of making experiments with a view to improving the grass lands of the country.

Mr. LANGFORD asked whether the society should not do something to prevent the over-feeding of stock for exhibition purposes.

Mr. W. FORTUNE asked the society to assist in the crusade against adulteration, and

Mr. F. KING (Wealdstone, Middlesex) said there was too much of the tinsel of title on the council, and a great deal too little of science, which, if supported by the experience of practical agriculturists, could not fail to prove of great value to the society.

The report having been adopted, a vote of thanks to the President was passed.

The PRESIDENT, in acknowledging the vote of thanks, replied to some of the questions which had been raised. He said the question of the registration of "doormen" was one rather for the Farriers' Company to settle. There was no doubt that the blacksmiths proposed what might be called a trade union in regard to this matter, so that all their body might be certificated. Trade unions were a very important body nowadays, and the society thought that by enlisting the sympathy of the trade union they would be doing a good work. Certificates would only be given to competent men, and unless they could thoroughly agree with the Farriers' Company on the system to be adopted, the assent of the society to the scheme would be withheld. With regard to the suggested experiments with grass lands, he stated that at one of their farms they had for years sown certain plots with the different scientific discoveries of manure, and the results were very striking. He admitted that they had not as many practical men upon the council as they could wish, but this was due to the difficulty agriculturists experienced in leaving their farms to attend to the business of the society. If they were not all practical men on the council they had to undertake the cultivation of land, and their interests were entirely identical with those of the agriculturist. In devoting their time to the work of the society they believed that they were not only helping themselves but also agriculturists, and as long as he had the honour of being on the council he should feel it his bounden duty to assist as far as possible in the development of agriculture in this country.

The proceedings then terminated.

THE ONTARIO VETERINARY MEDICAL ASSOCIATION ANNUAL MEETING.

A GOOD gathering of the members of this association took place at the annual meeting, which was held in the Ontario Veterinary College, on Friday, December 21st. The retiring President, Mr. J. Burns, V.S., took the chair, and delivered an excellent address, in which he reviewed the events of interest to the profession during the past year.

The matter of issuing dental diplomas by irresponsible parties was then dealt with in a report from the Committee in charge of the matter. Several

members of the association having expressed their disapproval of such diplomas, the original Committee was empowered to proceed in their work of inquiry into the best means of abating the evil.

Mr. W. J. WILSON, V.S., then read an admirable paper on "Public Health as affected by Veterinary Hygiene." Public abattoirs were advised, the proper inspection of diseased meat dwelt upon, and sufficient air space for cattle in stables (especially cows) insisted upon. Mr. Wilson holds that at least 600 cubic feet per cow should be provided in this country, the allowance in Edinburgh being 1,500 cubic feet.

Mr. W. COWAN, V.S. (Government Inspector of Stock), in discussing this paper, remarked that the law was now quite sufficiently stringent to enable us properly to deal with tuberculosis. As inspector, he had intimate knowledge of the condition of stock through large sections of the country, and he could state that tuberculosis is decreasing.

Mr. A. CROWFORTH, V.S., of Lockport, N.Y., then read an exhaustive paper on "Tuberculosis."

After a full discussion of these papers, votes of thanks were very heartily accorded to the writers by the unanimous vote of the association.

The various reports were then taken, and passed, upon being found very satisfactory. A number of new members were admitted. By unanimous vote, the sum of twenty-five dollars was presented to the Ontario Veterinary College to provide a gold medal for the student passing the best general examination at the end of the spring term.

The officers were then elected, the President-elect, G. L. Robson, V.S., of Manchester, Ontario, taking the chair. After routine business, the association adjourned.

CHRISTMAS EXAMINATIONS, ONTARIO VETERINARY COLLEGE.

THE Government Board of Examiners for the examination of candidates for graduation in Veterinary Science met on December 20th. The large upper lecture room of the Ontario Veterinary College is admirably adapted for examination purposes, and in this room the Board met. A number of students presented themselves, and were most carefully investigated as to their attainments. After a searching examination, the following students were successful, and to them was awarded the diploma entitling them to practise :—

Ball, Nelson, Auburn, Ont.
Coleman, David H., Philadelphia.
Cunningham, Robert, Thorndale, Ont.
Dunn, George H., Erie, Pa.
Elliott, John T., Uxbridge, Ont.
Engel, John H., Milverton, Ont,
Friedheim, Louis, Rockhill, S.C.
Funston, Wm. H., Toronto, Ont.
Harrison, G. W., Souris, Man.
Hisey, Dan, Creemore, Ont.
Irvine, John D., Dalkeith, Ont.
Jemison, George, North Bay, Ont.
Kiethline, John T., Jenningsville, Pn.
Macdonald, John H., Wiarton, Ont.
McAfee, Robert A., Aylwin, Que.
Sawyer, S. Gordon, Boston, Mass.
Snider, J. Herbert, Guelph, Ont.
Swenerton, Wilson, Wawanesa, Man.
Thomlinson, Benjamin, Clinton, Ont.
Whybra, Farnell, Niagara Falls, N.Y.

Primary Examination—Freeman, Arthur P., anatomy and materia medica.

Extract from Foreign Journal.

M. NOCARD, at a meeting of the *Société Centrale de Médicine Vétérinaire*, held at Alfort, on the 13th December, presented some specimens of diseased tissue and made the following remarks :—

"The specimens which I have the honour to present to you are ganglionary tumours cut out, one from the breast of an ox nine years of age and the other from the fold of the flank of a bullock eighteen months old. They have been sent to me, steeped in methylated spirit, from Mauritius, by the owner of a herd of 460 head of cattle. In less than two years nearly two-thirds of the animals have been affected with similar lesions. Sometimes all the exterior glands are attacked, sometimes only a small number ; frequently two indurated glands are united by a sort of sinuous cord, on which buds in the shape of beads appear, and the custom in Mauritius is to remove these tumours as soon as they become voluminous. There is often pus in the centre of them ; sometimes at the *post-mortem* large soft tubercles are found in the lungs, but most frequently the animals remain in good condition and the lungs are found healthy on opening the carcase. The disease attacks young as well as adult animals. The owner wished to know if this was a case of tuberculous lesion. You will see from the specimens that it is a case of considerable hypertrophy of the ganglionary tissues, with a thick resisting layer of fibrous tissue on the periphery and multiplex foci of caseous softening in the central part. Examination of thin sections of the diseased tissue made after due hardening enables me to set aside as totally inadmissible the hypothesis of tuberculous lesion ; in fact, it, on the contrary, enables me to connect the lesion with farcy. All round the softened parts the ganglionic tissue is filled with a considerable number of nodulous follicles, in form like tubercles, in the centre of which we find thick tufts of a filamentous microbe, branching out and tangled like brushwood, in all respects similar to the streptothrix of bovine farcy. I hope to receive soon, in sealed tubes, some pus collected pure in the centre of the softened ganglions, and to prove, by cultivations and inoculations, the identity of the two microbes, but the mere results of the bacteriological examination are sufficient, as I think, to enable me even now to decide upon this identity. It is interesting to note that farcy in cattle, which has become so rare in France that I have not for several years past been able to observe a single genuine case, continues its ravages in two countries so far apart as Guadeloupe and Mauritius."

Legal News.

AN ALLEGED PHENOMENAL GOAT. CLAIM AGAINST THE WORSLEY AGRICULTURAL SOCIETY.—At Salford County Court, before His Honour Judge Parry, J. T. Seddon, residing at Clifton, sued Mr. Upjohn, the Secretary of the Worsley Agricultural Society, for the second prize awarded to a goat which he exhibited at the last show. The plaintiff conducted his own case.—Mr. Bowden appeared for the defendant.—The plaintiff exhibited the goat in the class "under two years old," and was awarded the second prize, but a verbal objection was raised on the ground that the goat was more than two years old, and the veterinary surgeon of the society sustaining the objection, the prize had been withheld.—The plaintiff brought evidence to show that the goat was bought as a kid six weeks or two months old in July or August, 1893, in Withy-grove, Manchester, and therefore it was under two years old when exhibited at the show. The plaintiff said it had an abnormal development, and that was why he exhibited it.—Mr. Ashton, veterinary surgeon, Bolton, said he believed the goat had had a kid, for he milked it himself, and if

it were under two years old, it must be, as the judge had suggested, a phenomenal goat. He believed it must be five years old.—The plaintiff said he would have the goat killed, and a *post-mortem* examination made to show that it had never had a kid rather than lose the case.—The Judge said it would be a pity to kill it merely to prove the fact, and all the skilled opinions that might be presented would not alter the facts. If the plaintiff could bring further evidence to prove the age of the goat to be under two years the verdict would be in his favour, and for that purpose the case was adjourned until the 14th of December.—*Manchester Courier.*

THE DOG CROPPING CASE.—At Worship Street, on January 21st, Henry Cooper, dog fancier, of Pritchard's-road, Hackney, Robert Carling, and Mary Carling, his wife, appeared in answer to adjourned summonses charging them with cruelly ill-treating and torturing a certain dog and causing or procuring the same to be tortured and ill-treated.—Mr. Colam again appeared for the prosecution; Mr. Patrick Lynch now defended. The facts of the case have been partially before the Court, and it may be remembered that the question involved was as to the cruelty of cropping dogs' ears. The evidence given on the last occasion was by a man named Bilsom, who witnessed the cropping of a dog's ears by the defendant Robert Carling, the woman holding the dog.—Mr. Moore, veterinary surgeon, of Putney, corroborated the evidence of Bilsom as to the appearance of the dog. In cross-examination Mr. Moore said it was usual to crop the ears of bull-dogs and bull-terriers. It was also the practice to cut the ears of dogs hunting with packs—foxhounds and the like—but not to the extent that the dog in question had been cut. The ears of pack hounds were usually "rounded," because of going through hedges and bushes, where the ears would be torn. Similarly bull terriers' ears were cut to prevent injury by their fighting.—Professor Pritchard, late President of the Royal Veterinary College, residing at Regent's Park-road, was called by the prosecution to speak as to the cruelty of the operation of cropping, and said that no part of the skin of the animal body was more sensitive than the skin of the ear. In the course of the witness's examination it transpired that the dog which was the subject of the proceedings was in court, and was ordered to be produced. Mr. Pritchard, having examined it, agreed that not only were the ears cropped but that portions of the root of the ear had been removed. Such operations, he said, were extremely cruel, and the animal must have suffered great pain.—A lengthy cross-examination resulted, the witness in reply to questions saying that he was against the interference with dogs in any shape or form. He was also against the "docking" of horses, the dishorning of cattle, and generally the operations which were resorted to with animals.—Other evidence was given for the prosecution, and Mr. Lynch addressed the magistrate for the defence, submitting that the cropping was done in accordance with a custom which had long since obtained on the ground that it was an improvement to the dog as enhancing its value to its master and as protecting it from future and repeated injury. It was denied that the dog was an Irish terrier, but was of the bull breed, and of the kind that would fight. The rules of the Kennel Club, he said, were in his favour with that class of dog, as a bull terrier uncropped was not recognised at shows.—Mr. Vero Shaw was then called, and said he was a journalist, and the writer of "Cassell's Book of the Dog." He had kept dogs all his life, and had at one time eighty of the bull-terrier kind. It was, he said, impossible to keep bull-terriers without having their ears cut, as other dogs would injure them, and the cutting increased the value of the animal.—After a great deal of other evidence, Mr. Berry, judge at the Birmingham Dog Show, being one of the witnesses called for the defence, Mr. Bushby said he would read the whole notes of the case and take time to consider his judgment.—Mr. Bushby, on the defendants answering to their names, read

from notes, and said that, apart from the general question as to whether the cropping of bull terriers was lawful, it could hardly be disputed that defendants were liable for the special barbarity of mutilating the burrs of the ears of the dog that was operated on in the instance inquired into. The common practice was sought to be justified on two grounds—(1) that it enhanced the market value of the animals; and (2) that it was necessary for their own well-being. The first plea was, he thought, excluded by the case of "Ford *v.* Wiley," where it was laid down that, though severe operations, like that on the dog in question, might be performed, if without them the animals could not be fitted for their ordinary use, the mere fact that by such operations the market value was increased was not a valid excuse. The second plea he thought had not been proved by the evidence given for the defence. He had come to the conclusion that the defence had failed to vindicate the common practice of cropping, which had originated in the exigencies of dog fighting. He convicted defendants, but took into account the prevalence of the practice, and allowed them the option of a fine instead of ordering imprisonment. Each defendant was ordered to pay £5, the full penalty, and £2 2s. costs, or a month in default, with hard labour. Mr. Speechly, solicitor, appealed that the woman should be treated as acting under the coercion of her husband, but Mr. Bushby refused the request.

Claim for £30 Damages to a Horse.—Thomas Barker, veterinary surgeon, Harrogate, sued Octavius Parker, butcher, for £30 damages to his mare, alleged to have been committed by a pony belonging to Octavius Parker whilst in his stable. Mr. R. A. Shepherd, barrister, of Leeds, instructed by Mr. T. Laycock, solicitor, appeared for the plaintiff; and Mr. F. Barber, solicitor, defended.—Mr. Shepherd said that plaintiff arranged to stable his mare in defendant's stable, and on the night of the 17th of September defendant's pony got loose and kicked the mare.—He then called Thomas Barker, veterinary surgeon, Harrogate, who deposed that he bought the mare from Mr. Fountain. In the early part of August he saw defendant about his stable. He made an arrangement with defendant to have the use of a stall or a loose box. He was to pay 10s. for keep and 2s. a week for the stable. On the 24th August he bought the mare and put her in a loose box. He lent the mare to Mr. Sheepshanks on the 5th September, and got her back on the 12th. Took the mare down to the stable and he found the loose box occupied by two sheep. He had the mare in the stall. On the 15th he took the mare to the stable and found the defendant had killed some sheep. The entrails of the sheep were behind the door and he saw a strap and a "cameril." There was blood on the floor and on the door, and the mare would not go in. On the 17th September he again tried to get the mare into the loose box but the mare would not go in. He saw defendant in the stable but made no complaint about her being there. Had seen defendant's pony tied up in the stall adjoining. The pony was fastened by part of a riding bridle which went round the neck. What should have been the chain was composed of pieces of ropes which tied up the hay. (Bridle and rope produced.) On the morning of the 18th he went down to the stable in response to what was said by defendant's boy. He found his horse standing on three legs. There were two boys employed by defendant present. The pony was tied up. He cut the rope from the manger. It was the bridle with which the pony was fastened up the night previous. A week or more before he drew defendant's attention to the way in which the pony was secured. He told defendant he should get a collar like his, when he replied it was a very good one. Defendant said he would send one of the boys to obtain a bridle. The conversation took place in the stable on the morning in question. He found the mare trembling, lame, and resting her near hind leg. He found her cut and marked on every leg, and a horse's teeth mark on her back near the

spine. The vulva was swollen and dark in colour. The near hock was very much enlarged both inside and out. He had to treat the mare for three weeks, and during that time she was no use to him. He rode a bicycle in place of the mare. After the accident the mare stayed in the defendant's stable a month all but two days. He took the mare away on the 13th October. The mare was away a week with Mr. Sheepshanks. He had had £30 bid for the mare the same day as the accident happened. He could not sell her for £30 now.—Cross-examined by Mr. Barber: Did not know the mare was in Knaresboro' that day. He had not given orders for the mare to be sent there or taken back. He bought the mare from Mr. Fountain, and was present when he bought her. The mare was bought on the station side of the bridge at Boroughbridge. There was nobody there that he knew when he bought the mare. It was on the 22nd June, the last day of the fair. It would be about four o'clock in the afternoon when they bargained for the mare. Mr. Fountain bought the mare for £8 10s. It was a fair price for the mare in the condition she was at the time, and without a character. He gave Fountain £10 for the mare. He had proved her to have a good character. He had the mare at Mr. Watson's, the horse-breaker's, on the 17th. He took her to Watson's to try her in double harness, and she went quietly. The mare did not try to hold the brake back when she was tried. The mare did not rear but jumped, and fell on her side. The mare did not cut the leather of the knee-cap in going down, but cut the padding. She was only down once. The horse was not dragged a considerable distance either in Skipton Road or any other road. Someone went to him in Grove Road, and asked him to go and see some pigs next day. Did not ask Watson if she would ever go. Watson did not say she might, but that she would never be fit to trust. John Holmes was present during the whole of the trial on the 17th September. The mare had not been tried since that occasion in double harness. The mare was quiet in double harness on the 17th. Prior to taking the mare to Watson's he had not tried her in double harness. The mare would be worth £20 or £25 if she was not quiet in double harness. He would take £15 for the mare. It was a visitor who offered £30 for her. If he had wanted to sell the mare at that time, he should have asked £35 or £40 for her. Did not make any inquiries where the visitor lived. They were outside Mr. Parker's shop when the bargain was made. Defendant said he had a stall and loose box to let when they were talking about stabling. When he took the mare, he found the two stalls were occupied. The mare was generally put into the loose box. Did not say anything about the mare being dangerous, but told him her height. Defendant did not say anything to him about danger if the two mares got together. He was to have either the loose box or the stable. He attended to the mare at once when he got there on the morning of the 18th. He attended to the mare four times that day. Did not say to the lad named Kendrew that he was to blame for bringing the mare out of the loose box. Did not say to defendant's brother it was a bad job, and that he wished he had not taken the mare out of the loose box. Did not examine the mare when defendant's brother was there. Mr. T. G. Parker did not draw his attention to the near-side hock. Did not say the mare had thrown herself down, and had jumped up quickly, and had caused the injury on the hock. When he was dressing the legs of the mare he said it was a bad job, and that she was blemished for life. He had intended running the mare at Pateley Bridge races. He made the claim for £30 damages in November, when Mr. Parker sent a letter demanding the money for the stables. He thought when he got the bill for the loose box it was time to make his claim, and he instructed his solicitor to write to the defendant and make the claim. At the time he was willing to have foregone the damage if he would have settled the account. The hock was slightly enlarged, and would be permanently so.

The mare was seven years old, rising eight. Some of the marks on the teeth showing the age of the mare, were visible when he bought her. On the 17th September his mare was not in use. He seriously accused the detendant of slaughtering sheep in the loose box on the 13th. He previously said the entrails of the sheep were on the floor behind the door. It would take four or five days for the smell to pass away. When he found out what was going on he did not make any complaint to the sanitary inspector, Mr. Parker, or anyone. He had both ridden and driven the mare. The mare was a strawberry roan with black legs, and he had a match for her.—Re-examined by Mr. Shepherd: When he bought the mare she was in poor condition, but in two months she was in first-class condition. The mare was a month in the stable after the accident, and was treated three weeks. The mare had not been fit to work until the present time. When his horse was tried in double harness it was quiet. The defendant's pony went out to work on the morning of the 18th. Nothing was said to him about the pony having kicked the mare.—Wm. Kemp, sanitary inspector of the borough of Harrogate, deposed that he knew the stables in question. He did not know that any sheep had been killed there. He suspected there had.—Charles Gray, eight years old, having been sworn, deposed that he knew Mr. Parker's stable. Had seen both live and dead sheep there. The sheep were killed in the loose box. He saw two sheep killed there on a Saturday. It was after the holidays when he saw the sheep killed.—[At this stage the boy burst into tears, and he was taken round to the judge on the bench, who soon cheered him up again.] The case was adjourned until the 20th December, when special court days will be held on that and the following days.—*Harrogate Herald.*

Notes and News.

In our last issue it was stated that foot and mouth disease had reappeared in East Kent, but this was proved to be a false alarm when the animals were examined by Professor Cope of the Board of Agriculture.

Honour to a Veterinary Surgeon.—In the distribution of New Year honours by Her Majesty the Queen, we are much pleased to note that the veterinary profession has not been overlooked. Veterinary-Captain J. A. Nunn, Principal of the Veterinary College at Lahore, Punjab, has been gazetted Companion of the Indian Empire, an honour conferring great distinction on him. This must be most gratifying to the whole profession.

Volunteer Veterinary Officers.—The new edition of the regulations for the Volunteer Force (1894), has the following paragraph added to it. "Every candidate for appointment must be a member of the Royal College of Veterinary Surgeons." As in previous years, no Veterinary Surgeons can have the letter P placed after his name in the Army List, unless he be a Fellow of the Royal College of Veterinary Surgeons, or has served in the Regular Army.

Sulphanilic Acid in Acute Catarrh.—According to Dr. Valentin, sulphanilic, or paranilino-sulphonic acid, is an excellent remedy in acute catarrh. From 30 to 60 grains may be prescribed with a somewhat smaller quantity of bicarbonate of soda in ten times its weight of distilled water once or twice daily. The effect of a dose becomes apparent in about two hours, and the amelioration it produces may be expected to continue for a whole day or even more. When sulphanilic acid is taken for some weeks it does not appear to disorder the digestion or to produce any unpleasant effect, except, perhaps, slight diarrhœa.—*Lancet.*

RABIES IN DOGS.—Cases of rabies are lately reported from Lanarkshire, Scotland, and from the West Riding of Yorkshire and Lancashire. They have been of a serious nature, many people having been attacked and bitten. At Lancaster, Messrs. Young and Robertson, M.R.C.V.S., found distinct appearances of Rabies on *post-mortem* examination, of a rabid dog that had bitten several people. Four of them have proceeded to the Pasteur Institute, Paris. At Barnsley, a gentleman and his groom were badly bitten by a dog certified to the rabid, who have also proceeded to Paris. From Lanarkshire, six children have been forwarded to the care of Pasteur. Stringent measures by the municipal and police authorities of these areas to prevent the spread of the disease, it is to be hoped, have been put in force.

BOYCOTTING AN ABATTOIR.—The abattoir, erected by the Corporation of Brighton with the double object of securing efficient inspection of the meat supply of the town, and of eventually clearing away the private slaughter-houses within the walls, was used for the first time a few weeks since, when a butcher and a pork-butcher commenced slaughtering. The abattoir was opened a little more than four months ago, since which time it has been standing idle ; the butchers of the town, who had not viewed the project with much favour during the discussions that passed in the Council Chamber before the buildings were started, have joined in an effective boycotting of the new institution. The ostensible ground for the boycott is that a cooling chamber had not been provided, but as few, if any, of the private slaughter-houses are not provided with this appurtenance, it is thought that other reasons exist for the systematic neglect that the building has hitherto been subjected to. Even now only a fraction of the accommodation provided has been brought into use.

THE HORSE STRENGTH OF THE ARMY.—The last returns of the total of horses and mules in possession of the regular troops at home and abroad, for all purposes, shows that the number provided in the Army Estimates was well maintained last year, the total being 27,300. A very large proportion of the 27,300 are in India, where the British cavalry and artillery employ nearly the whole of the 12,500, independently of the horses of native cavalry regiments, who mount themselves for the most part on country-breds. Of the remainder of the army's horse strength, comparatively only a small proportion is distributed abroad—in Egypt and Natal, which have each a cavalry regiment. The thirty-one regular cavalry regiments in the service (including the Household troops), employ 12,500 horses, which leaves quite a third of the men unmounted. The artillery have rather over 12,000 animals, of which nearly 8,000 are on the establishment of the eighty field batteries, and 3,000 are with the twenty horse batteries or with the depots or riding establishment of those services. The remainder of the 12,000 artillery animals are mostly used by the mountain batteries in India. The forty companies (including the two remount companies) of the Army Service Corps, all retained at home, have rather more than 1,300 animals; the Royal Engineers, for mounted companies, telegraph and bridging corps, 400; and the infantry battalions at home, some 700, chiefly for regimental transport service.

ABORTION IN COWS.—We are indebted to the columns of our valuable contemporary, the *North British Agriculturist*, for the following remarkable testimony as to the medicinal value of carbolic acid as a remedy for abortion in cattle :—The herd of shorthorns, the property of Lord Fitzhardinge, on the Berkeley Cattle Estate, Gloucestershire, and formerly one of the leading herds in the country, had of late years been so decimated with the plague, that to stay its course, the herd was on the point of being slaughtered out altogether much to the regret of its noble owner. The estate agent at this crisis learned that in the New World carbolic acid in similar cases had been given with good

results, and at once proceeded to administer it to the pregnant cows of the herd, with remarkably successful results. Mr. James Peter, Lord Fitzhardinge's agent, in the issue of the above-named journal of January 9th, states that he has used carbolic acid regularly for the past three years, as a preventive against bacterial disease, and in all his experience never had animals keep so healthy as since he has done so. To quote his words, "The use of carbolic acid as a preventive of abortion, is commenced by mixing with sufficient hot water to make a bran mash, ¼ oz. ordinary crude carbolic acid, then add the bran, gradually increasing the carbolic acid to ½ oz., which is the maximum quantity I can get a cow to take in a bran mash. For a number of cows I measure out the requisite number of ½ oz. doses, and mix with the water and bran in a fodder barrow, and then give a good broad shovelful to each animal. Before I got rid of the disease I administered the carbolic mashes three times a week. I find it equally safe to give an animal a ½ oz. dose daily. The fact is unassailable that the subtle and persistent malady termed abortion in cattle has been arrested in its ravages among the shorthorn cows of Berkeley Castle, since the use of carbolic acid was introduced there, and it remains for stockowners and their veterinary advisers to continue an experiment which may turn out to be of incalculable value."

The Proposed Union of Veterinary Colleges.—A motion has been made in the Edinburgh Town Council by Messrs. Hay and Mitchell Thomson to remit to the Lord Provost's Committee to consider the advisability of effecting a union of the two veterinary colleges in the city—the Dick College in Clyde Street, and the New College in Elm Row. The proposal, whether anything definite comes of it or not, is one of considerable importance, affecting as it does the educational interests of an important profession. To those interested in the advancement of veterinary teaching in Edinburgh, and who would like to see one strong, effective college, the proposal has given much satisfaction, and a strong desire is expressed to see it accomplished. The advantages, it is pointed out, are very considerable. At present the two colleges in Edinburgh have each a full teaching staff at work, while the number of students in attendance at both colleges could quite easily be taught by the staff of one of the colleges. Time was when large numbers of veterinary students came annually to Edinburgh. Forces, however, have been and are at work which have effected a radical reduction in the numbers. The preliminary examination has been made much more difficult, with the result that fewer candidates get through. The curriculum has also been extended by one session to four complete sessions, which has also operated adversely. But probably a more important factor in reducing the number of students than any of these is the proposed establishment of an Irish veterinary college. Hitherto students from Ireland have formed the large majority at one of the colleges. With the establishment of a college in Ireland, it is safe to assume that the Irishmen will go in for Home Rule in this department, and not come to Scotland for what they can get at home. It is pointed out by those who advocate amalgamation that the present is a most opportune time for considering the question. Owing to the death of Principal Walley, there must necessarily be a rearrangement of the work of the Dick College, and there cannot be the same amount of professional prejudice as to the priority of the heads of the respective institutions. This, taken with what has been stated as to the probable future decrease of students, is a favourable element in the consideration of the matter. It seems in some quarters to be assumed that the chief opposition to the proposal would come from the Dick College, but the Town Council, if they are convinced that the union would be for the ultimate benefit of the science, would not be inclined to allow this to stand in the way. Of course, if there were a union, the buildings of one or other of the colleges would have to be disposed of, as they would not be

required. But here, again, it is pointed out that this need not be any obstacle, as the buildings at Clyde Street are not very convenient for the work of the college, being much too confined. There is no "infirmary" on the premises, and this is a decided disadvantage. The buildings of the New College at Elm Row are constructed according to the latest and most approved sanitary and other principles, with "infirmary" attached. They are also open and cannot be obstructed any more than they are at present. One argument in connection with the union, which seems to have considerable force, is that were this to take place money might be granted for the prosecution of original research. At present, this has to be done almost entirely by the professors themselves. It is not to be expected that a question of this importance can be settled right off, there being various conflicting interests which will require both time and tact to harmonise. All the same, however, the difficulties are not insuperable, but are such as may be overcome by a body like the Corporation of Edinburgh.—*Edinburgh Evening News.*

Correspondence.

NOTICE TO CORRESPONDENTS.

Contributors who send illustrations with their papers are requested to make their drawings (on white paper) in distinct black lines, with rather strong contrasts between the high lights and deep shades. Water-colour drawings cannot easily be utilised in producing process-blocks for the modern methods of book-illustration in black and white.

THE PROFESSIONAL OUTLOOK.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR.—I feel under compulsion to acknowledge the generous compliments that you have paid me in the January issue of the VETERINARY JOURNAL on my retirement from its management, and to express the hope that I have deserved all the kind expressions that you so lavishly render.

These expressions are in marked contrast to those emitted at the Council Meeting of the Royal College of Veterinary Surgeons, on November 28th and reported in the number of the Journal referred to. At that meeting I am charged with perpetrating a deception on the public, by examining shoeing-smiths in a little underground office for five minutes, asking them a few questions, and then sending them forth into the world as registered shoers. These statements are wholly and entirely untrue, as I have never examined anyone in an underground office, and certainly have never examined shoers for only five minutes, nor yet for ten minutes, but for at least fifteen or twenty or for even forty minutes, according to requirements.

I have only further to add that it is in my opinion a very unfortunate thing that the president should become a partizan of the person who made these unfounded statements, in that, he not only permitted the personal attack to be made upon me, by Mr. J. A. W. Dollar, but also stated that he did not object to it. He ought to have been aware that the statements made were unfounded.—I am, etc.,

GEORGE FLEMING.

To the Editor of the VETERINARY JOURNAL.

SIR,—I quote a description of a perfect horse as described in a thrilling story in this month's ——— magazine. I think it is too good to be missed :—

"He was a bright bay, with black points, and stood nearly 16 hands, with a

head that was faultless from the tip of the silky ear to the pink of the perfect nostril and the lustre of the big, kind eye. *A trifle short in the back, perhaps, but how well ribbed up*, and what quarters, and what a shoulder, *with its bunches of muscle* and its grand proportions; and his legs as clean as a whistle, *with their long powerful stifles* and sinews as strong as steel."—I am, etc., SMILES.

THE JUBILEE MEMORIAL.

To the Editor of the VETERINARY JOURNAL.

SIR,—I should be much obliged if you would insert in your next issue the subjoined list of the members of THE JUBILEE MEMORIAL COMMITTEE, and allow me to intimate that members of the profession who may be willing to join and assist the Committee in promoting the success of the Memorial, are cordially invited to communicate with the Chairman, Mr. R. C. Trigger, Newcastle-under-Lyme.

The first list of subscribers will be published in March. Donations will be received and acknowledged by the Treasurer, Mr. F. W. Wragg, 17, Church Lane, Whitechapel, E., and by—Yours faithfully, J. MACQUEEN.

Royal Veterinary College, London, N.W.

The Jubilee Memorial Committee.

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To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—The case which I detail below was one of a foxhound puppy we were walking. I must confess my diagnosis was at fault, but perhaps the case may be instructive to those who may have a similar one.

"Spoiler" was six months old and was just beginning to tear up the mats, run off with the sponges, etc., and when you were wound up to that point when he must be beaten and you went in search of him with anger in your heart and a whip in your hand, he sat calmly watching you approach, with his head on one side and an innocent look in his eye that caused you to think better of your fell design and more leniently of his youthful foible, and the consequence was he was forgiven. On Thursday he followed the trap, but next day was ill. Violent purging, very fœtid and light-coloured fæces, vomiting mucus tinged with blood, great prostration, sunken eyes, great thirst, yellow colour on the mucous membranes and belly, constantly sitting up and letttng himself slip down, apparently suffering from some irritant poison, and was treated for such.

Saturday much worse, symptoms more accentuated, eyes more sunken, hopeless expression of countenance, no indication of pain when handled, mucous membranes orange colour, breathing slightly accelerated. Sunday, sinking; rapidly got up, stretched his neck upwards, and then fell down on one side; propped himself against the wall, eyes closed, and body motionless, except for the breathing; he then slipped down on the straw. Suddenly he threw himself forward as if in a fit, rolled from side to side, half raised himself, fell headlong, and died.

The *post-mortem* examination showed that there was intussusception of the bowels in three different places. The other organs were in a normal condition.—Yours faithfully,

J. H. WILSON.

NEWBURY, 12*th January*, 1895.

TOWN FIELD. KEIGHLEY,
9*th January*, 1895.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I have forwarded per Midland Railway to-night, a morbid specimen, which you may perhaps deem of interest, and worthy of note in your new JOURNAL. I will, therefore, briefly state the history of the case.

I was called upon, on Monday last, to visit and examine a bay pony, about twelve hands high, and rising four years old, which had been led out for exercise in the morning of the same day. After being out for half-an-hour in a field adjoining the stable, and when the man was turning the animal round, it fell on its side, without seeming to have slipped (although the ground was covered with snow), and was then unable to rise. The groom proceeded for assistance, and he and another man tried to help it on to its feet; they managed to get it up once, but the fetlocks knuckled forward, and the pony fell again. No subsequent endeavours would induce the pony to try to rise, and so it was drawn into a loose-box, and made as comfortable as possible until my arrival. I found it lying on the right side, showing no signs of pain, with pulse beating eighty per minute, and internal temperature (vagina) only 98 F. I then examined the limbs, and found that the point of each hock (os calcis) was detached from the main body of that bone; there was no swelling of the parts or external bruise, and no pain was evinced upon manipulation. I could detect no other deviation from the normal condition.

The pony remained recumbent and died at nine o'clock to-day (Wednesday). Upon *post-mortem* examination, I found that six ribs were fractured on the right side, two of which had pierced the lung, and lacerated that organ. The hocks when denuded of the skin showed extravasation of blood, and that the epiphysis of each os calcis was detached from the body of the bone. Is it not very unusual to have such a condition of things in a three year old, and did the fall result from this condition, or was it produced by the subsequent effort to rise?

With best wishes for success to your new journalistic venture, I am, yours faithfully,

GEO. W. CARTER.

[The parts sent by Mr. Carter were duly examined, and the bone was found to present the condition termed osteo-porosis. Doubtless the ribs and other bones of the skeleton would be in a similar condition. The engorgement of the blood vessels and the dilatation of the Haversian canals were very marked features of the pathological condition.—ED.]

THE VETERINARY PROFESSION IN COURTS OF LAW.

To the Editor of the VETERINARY JOURNAL.

SIR,—Whether for the sake of the fee or paltry flattery of having won a case in court, some of the most illustrious members of our profession will go and give evidence against a brother professional, I can't say. I think it looks very humiliating and degrading that when one of our members will take the onus and responsibility of sticking up for the poor man, and ordering his horse to work, irrespective of the opinion of a Cruelty to Animals Inspector, that there are members of our profession who will come and give their most conclusive opinion that the animal is not fit to work, and as it is expensive for the member who may be defending the case to bring professors (who might be better employed) to back up his opinion, the weight of evidence will most assuredly carry the case in favour of the Society. What chance has a single practitioner against the hirelings of a Cruelty to Animals Society, unless he be possessed of unlimited means. *Vis Unita Fortior.*

Bishop Auckland.

JAMES G. DEANS.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Dr. Geo. Fleming, C.B., E. Wallis Hoare, F.R.C.V.S., Ontario Veterinary College, Ontario Veterinary Medical Society, W. Awde, F.R.C.V.S., J. Armstrong, M.R.C.V.S., J. H. Wilson, M.R.C.V.S, Newbury, Geo. W. Carter, F.R.C.V.S., Professor Macqueen, Dr. Haslam, F.R.C.V.S., A.V.D., F. C. Mahon, M.R.C.V.S.

BOOKS AND PAMPHLETS: "Eloge de H. Bouley, par Camille Leblanc;" "Annales de Medecine Veterinaire;" Royal Commission on Horse Breeding. Queen's Premiums.

JOURNALS, ETC.: *The Veterinarian, The American Veterinary Review, The North British Agriculturist, The Horticultural Review, L'Allevotore, Cape Colony Agricultural Journal, Recueil de Medecine Veterinaire.*

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MARCH, 1895.

HELMINTHIASIS—PERIOD OF GROWTH OF THE CALF ASCARIDE.

BY VETERINARY-CAPTAIN A. J. HASLAM, M.D., C.M., F.R.C.V.S., ARMY VETERINARY DEPARTMENT, NEWBRIDGE.

PROFESSOR J. PENBERTHY, F.R.C.V.S., has, in the *Journal of Comparative Pathology* for June, 1894, contributed most valuable evidence as to the period of growth of the *ascaris marginata*.

I have searched in vain through much of our helminthological literature in order to ascertain the *shortest* known periods in which "worms" can reach the adult stage, and I find that each author guards himself by such expressions as "very rapidly," etc., and is rarely able to state the time occupied in development. This rule has exceptions, *e.g.*, Oxyuris and Trichina. In most instances, however, helminthologists have been most careful to ascertain the *longest* time experiment has shown eggs or embryos to occupy in reaching maturity, or the *extraordinary* long periods for which they can retain their vitality and power to grow.

In considering endemics of helminthiasis, it is important to know *how quickly* multiplication can take place. Professor Penberthy's communication is, as far as I know, an important and original contribution from this aspect. He states words to the following effect: In one case, there were numerous small worms (*ascaris marginata*) in a two-weeks-old puppy. This statement implies that these parasities developed from eggs or embryos *within two weeks*. No one will suggest the passage of eggs through the fœtal membranes, for although Lewis, Leuckhart, Delafond, Cobbold, and others have

observed many instances of parasites getting into the blood-vessels and lymphatics, yet all such are instances where an intermediate host of another species was probably necessary for the development of the entozoon, and where the parasite has a narrower diameter than the ova of the ascarides.

At Cawnpore, in 1893, three calves (two being buffalo calves) varying from 20 days to 31 days old, died after showing symptoms of congestion of the lungs. *Post-mortem* examination revealed the following result :—

Acute general evenly-distributed hyperæmia of both lungs with congestion of bronchial tubes. Larynx and upper part of trachea, normal. In rumen, reticulum, third and fourth stomachs, throughout small intestines, ductus choledochus, cystic duct, gall bladder, greater portion of large intestine were numerous round "worms" of all sizes. In some parts the "worms" were closely packed and fully expanding the gut. I computed over 900 "worms" to each carcase, and this must have been rather under the true figure! Not the slightest congestion of mucous membrane could be discovered anywhere in the alimentary canal of any animal. Throughout, in each instance, the mucous membrane was intact, and if anything, rather *paler* than normal.

All other organs were examined and found to be normal, there was no yellow coloration anywhere, and no sign of jaundice.

Some of the "worms" were examined microscopically, and they agreed with the description given in Fleming's splendid edition of "Neumann's Parasites of the *Ascaris Vituli*." The adult females contained innumerable eggs in their coiled uteri (ovaries). Some of the females were quite 12 inches long. Towards the end of the intestines there were *more* larger worms, but adult worms existed also in the duodenum and stomach ; near the rectum they were shrivelled, darkened, and semi-digested with their contents (eggs) gone.

Thus the appearance pointed to some *continuously* acting source, by which the eggs or embryos found their way to the alimentary canals of the calves. The question therefore arises, whether the calves by licking themselves or each other, could have kept "re-infecting" themselves, similar to the case of the oxyuris vermicularis, with which, according to Cobbold, the host is the "re-infecting" agent.

It is to be noted that these calves were not in bad condition,—they were plump little animals, and in good spirits up to the beginning of their illness. Each was evidently an instance of receiving milk for *very many* mouths, and so long

as the supply was ample, and the intestinal walls capable of enlarging, no outward symptoms would occur. The calves, during illness, did not show *any* sign of pain. There were hurried respirations, and rapid onset of a semi-comatose condition, which lasted until death occurred, about twelve hours after the calf was noticed to be ill. No treatment was adopted, no suitable remedies being available, and I doubt if much benefit could have accrued from anti-helminthic treatment, or even from combating the urgent symptoms.

From the autopsy then, we have direct evidence that the ascaris vituli can, *under favourable* conditions, *reach maturity in probably less than* 20 *days*. Other observers will no doubt, by examining younger animals, be able to give us *more accurate* information.

Careful enquiry as to whether any drinking water had been within reach of these calves was made, but with negative result. *Supposing* the little animals had occasionally obtained access to water and foolishly preferred it to their mother's milk, the fact would scarcely account for the parasites being found in different stages of development in all three calves, unless the period of growth is really very much *less than* 20 days, and we assume the parasites first taken gave birth to eggs, which latter also grew in the *same* host! This, according to present knowledge, is not probable, and I submit, the evidence points to some continuously acting source, from which the eggs were obtained by the calves.

As probably the only diet received by the calves was the milk of their mothers, how are we to account for this complete filling of the intestine with ascarides. Milk is a favourable medium for these parasites. It seems to me that Professor Penberthy's theory, as to the source of the "ova or embryos," is the only admissible hypothesis, viz., that the ova or embryos are taken "from the *teats or hair*" of the mother. No doubt this source, aided by the calves *licking themselves* and *each other*, or indirectly, by the *cow bespattering* or licking the calves immediately after she had drunk water containing the ova or embryos. I regret not having examined scrapings of the teats of the cows, nor the drinking water of the cattle, while I had the opportunity.

These three calves died within a week of each other, and they were *among* the first, if not the first, of a newly-established byre. The ground was *probably* fresh to cattle, but was badly situated. At the time of the sickness the place was surrounded by land under water, consequent upon the heavy rainfall. For this reason, contact among the animals

of the byre was, no doubt, frequent, and the development of entozoa was favoured by the bad hygienic environment.

The fact of the ground being more or less fresh suggests the question whether adult cattle can be the bearers of the *Ascaris vituli* more frequently than is generally stated. The opportunity for my ascertaining this in India has gone, but Dr. Fleming, one of the greatest authorities on helminthology, could, perhaps, settle this matter by quoting the Continental results. "The *Ascaris vituli* is rare in adult animals" is the statement in his work, "Neumann's Parasites."

When we see such a condition in animals so young, as in these calves, and if we *only guess* at the minimum number of eggs in each "worm," we must realise the danger and prevalence of helminths in domestic animals. "Neumann's Parasites" quotes Eschricht, who computes one *Ascaris lumbricoides* as containing several million eggs!

In India, I may state, from actual observation, that nearly every domestic animal, and a *great percentage* of the reptiles and fishes of Indian rivers, are subject to some form of helminthiasis or other.

In this instance, the adult cattle and the calves *were seen* to lie on *dirty* litter and on the *manure-heap*, and it is easy to conceive how the external parts should become deposited with ova, already favoured by suitable climatic conditions.

If the teats, etc., are touched by the milkers, what may we expect in the milk sent for human consumption? One must *hope* that these loathsome guests are not capable of development outside the alimentary canal of *cattle*. Since, however, some of these guests appear to thrive on bile, others without it, others in an acid medium, etc., their power of adaptability to change of environment would appear somewhat elastic!

Experiments show that ova of the genus ascarides can "bide their time." As much as 11 months can be passed in passing from vitellus to embryo (Cobbold)—and so it would appear their development can be as slow as it is quick under other conditions! Ascarides are generally *confined to* the small intestines of domestic animals. Many instances are on record where the horse's *small intestines* are described as *full* of ascarides. There can be no doubt the calf's alimentary canal, at the age of three weeks under milk diet, has not so many diverse functions as in later life.

An important point is, had the pulmonic hyperæmia any connection with the parasites of the abdomen? There were *three* cases, all showing the *same* symptoms during life, and all showing the *same post-mortem* results. All were laid open

end to end. In all, the intestines were for the most part packed choke-full of parasites, mostly adults, lying side by side, completely occupying the lumen of the gut, and giving the appearance of a shrapnel cartridge in cross section. Only very *fluid* fæces could have passed. Even where fullest, there was *not the slightest congestion*, inflammation, petechia, or ulcer of the mucous membrane. The mucous membrane was, if anything, even paler than normal. One can hardly conceive such a condition of extreme helminthiasis without some reflex or irritative effect, whatever the effect was, and one must simply state the *coincidence of three cases*, each with intestines crammed with ascarides, and each with lung congestion. We *know* the young are *very* tolerant of intestinal entozoa, but no one could conceive such a condition as in these calves without some signs of irritation. Fleming's "Neumann states," on p. 414, "Local inflammations of the intestinal mucous membrane are noted in these cases, and they may give rise during life to colics, and exceptionally to rupture of the organ."

My *three* cases are direct contradictions to this statement, which is, however, no doubt, based on a *very large* experience of the *ascaris vituli* in calves, and it is for this reason that I think the cases are worth recording, and of being accurately described.

I never saw anything like the number of parasites in an animal as in each of these cases, and under the circumstances, I may be pardoned using the big word helminthiasis, to express simply "worms!"

URINOUS ECZEMA?

R. COCKBURN, M.R.C.V.S., EASTWOOD.

I WAS asked to look at a well-bred saddle-mare, belonging to a manager of some limeworks in this neighbourhood. I found that the mare had skin disease from the tips of her ears to the root of her tail. The skin was in ridges and furrows all over her, cracked in all directions, and covered with scurf. The cracks did not seem to penetrate the skin, but only the mass of scurf, which hung in shreds, supported by what hair was still left on. No part, however, was quite denuded of hair. Pulse was slightly accelerated; appetite good. On the abdomen was a swelling from three to four inches thick.

The scurf (some of which I enclose) seems just like the epithelial scales sometimes found on the legs, abdomen, chest, etc., of young horses in the winter, and which disappears in the spring.

I should take it as a great favour if you would examine the scurf and urine which I enclose, and let me know the cause, and the line of treatment you would suggest.

I may state that the mare was purchased in June, when she was very poor and covered with lice. The lice were killed by a dressing, and since the skin has gradually got into the above condition, and defies all efforts at cure or even alleviation.

[Urine very mucous, gives excessive deposits of carbonate of lime crystals.—ED.]

CONSTIPATION IN A LION CUB.

BY JOSHUA A. NUNN, F.R.C.V.S., C.I.E., D.S.O., VETERINARY-CAPTAIN ARMY VETERINARY DEPARTMENT, PRINCIPAL LAHORE VETERINARY COLLEGE.

SOME weeks ago I was requested to examine a male lion cub, in the Lahore Zoological Gardens, that had lately been purchased from an officer, who had obtained it while on a shooting trip in Somalie Land last summer. The animal was very tame, and had been used to run about the owner's house loose, playing with his dogs, and taking a good deal of exercise one way and another. It was sold by him, as he was leaving India, and the cub becoming somewhat rough in his play, it was not thought advisable to leave him loose any longer. In the Zoological Gardens he was confined in a good roomy cage, and although he had plenty of space, the confinement and want of exercise evidently told on him, and he became obstinately constipated, no motion having been passed for five days. The cub was dull, disinclined to move, and had lost his appetite. The abdomen was distended, hard, and somewhat tender on manipulation; the track of the colon, distended with fæces, being distinctly felt through the abdominal walls. The cub's head and fore-limbs being secured in a sack, about three-quarters of a pint of warm soap and water was administered as an enema with an ordinary human indiarubber enema apparatus, and a dose of four ounces of castor oil given, the animal's head being let out of a hole in the bottom of the sack, and the mouth held open by strong tapes round each jaw. The bowels were freely moved three times in the twenty-four hours, the animal rapidly recovering his spirits and playing about his cage with a fox-terrier pup that lived with him, in his usual fashion. Half-an-ounce of manna was prescribed in the milk, which forms a large proportion of his food, twice a week. This he drinks readily, and it seems to regulate the bowels and counteract the effects of confinement, with the best results.

RUPTURE OF THE ŒSOPHAGUS.

BY A. W. LAWSON, M.R.C.V.S., FALKIRK.

Subject.—A brown filly rising two years old—the property of David Mitchell, Esq., Millfield—affected with strangles; the dyspnœa became so great as to render it imperative that tracheotomy should be performed. This was done on January 12th, giving, of course, immediate relief. There were numerous abscesses formed about the head, throat, and submaxillary space, which were freely opened as they ripened, and dressed antiseptically; improvement was slow on account of the recurring suppurations. However, I was enabled to remove the tracheotomy tube on February 1st, and the case proceeded satisfactorily for about a week or ten days, when I was obliged to reopen the wound and reinsert the tube, on account of the breathing being again distressed, due to a swelling on both sides of the neck, fully four inches above the seat of operation. This swelling gradually enlarged until the neck became quite stiff. A day or two previously the groom in charge had reported that the patient was taking little or nothing to eat or drink.

The swelling was fomented most assiduously for four or five days (meantime, there was marked loss of condition), and when it pointed—suggesting the epithet, "beautifully ripe"—I cautiously inserted the point of the lancet; but it seemed that the "matter" was so thick and inspissated, as to prevent its coming away. I enlarged the opening, and gave exit to a large quantity of what one might call "funny-looking pus," the appearance of which called forth this apt remark from the coachman, "That's queer-looking matter, it's like porridge;" and truly it was. On emptying the sac, my suspicions were at once directed to the œsophagus. Water was given, and it flowed out through the aperture in the neck.

I cast the animal and opened up the wound with the object of repairing the breach, if possible; but finding this absolutely hopeless, the animal was immediately destroyed.

Post-mortem examination revealed a round ragged opening, about the size of a shilling (fully three inches from the point where the lance was introduced); the coats of the œsophagus being degenerated and thin, owing in all probability to the prolonged suppurative process. There was a large sac or cavity, the walls of which, together with the surrounding infiltration, showed that the rupture had taken place several days prior to my opening the sac.

PARALYSIS OF RECTUM AND BLADDER.

BY E. L. STROUD, ASSISTANT TO F. H. REEKS, SPALDING.

Case.—Grey pony, five years old.

History.—Losing flesh, but eating well. Very sluggish in going. Owner said it was a case of constipation of the bowels, and that he had given it a pint of linseed oil.

Symptoms.—We were called in on January 9th, and shown two or three little nobbly bits of fæces, as all that had been passed during the preceding 24 hours. Examination of rectum revealed a large quantity of fæces, and when these had been removed, there was as much as would be passed by a good sized cart horse in two motions. Bladder full, urine had to be drawn away, and both urine and fæces had a nasty sour odour. Tail flaccid. These symptoms were shown each day, and not getting any better, we advised owner to send it to the infirmary. This was done, and after about three weeks it improved somewhat for two or three days, then gradually got worse, the paralysis extending into the hind quarters, rendering her hardly able to walk, so advised owner to destroy, which was done February 18th. From first to last when walked, or trotted, fæces and urine were ejected in very small quantities. Patient never once put herself into position to micturate or defæcate.

Diagnosis.—Complete paralysis of rectum, bladder, and tail.

Treatment.—When first seen, a dose of physic, followed by nux vomica. Strong turpentine liniment rubbed over course of lumbar and sacral vertebræ. Second visit.—Renewed application of liniment, and turpentine and hot water enema. Nerve tonic drinks. This was the treatment adopted in the infirmary for the first fortnight. Then the loins and quarters were severely blistered. When the action of this had passed off, and no improvement seen, the tail was docked to see if that would stimulate the nerves. This seemed to answer for a few days, and then the pony gradually got worse. Not once during the whole time could she pass her excretions voluntarily, but they had to be removed twice a day. I might add that we rather expected that the tail had been injured, but the owner could not say whether such was the case.

FOREIGN BODY IN ŒSOPHAGUS OF A PUP.

On Tuesday, February 19th, a King Charles spaniel puppy was brought to the College Infirmary for treatment. The owner stated that on the previous Sunday the animal had swallowed a teacup, explaining, in answer to the elicited look of incredulity, that it was a child's toy teacup. The pup had

been frequently sick, but could manage to take and retain a little milk. On manipulating the gullet, pain was evinced when a spot at about the beginning of the middle third was touched, and on carefully handling the part, the œsophagus was found to be distended with some body having quite sharp edges.

Chloroform and ether were administered, and an attempt was made to dislodge the obstruction by pushing it into the stomach, a gum elastic bougie being used as a probing. This was very soon found to be impracticable, as the bougie kept slipping off the offending body, and even when it did hold, the folds of the mucous membrane of the œsophagus prevented its being stirred. The obstruction was now seized with the left hand from the outside, and pushed up towards the fauces, while the right index finger was introduced into the œsophagus, and with a good deal of careful traction was pulled into the fauce, seized with a pair of forceps, and removed.

The foreign body turns out not to be a teacup, but a ragged-edged flat piece of bone, and measured one inch long by three-quarters of an inch broad. The puppy did well.

Editorial.

THE RECENT DISCUSSION ON THE TRAVELLING SCHOLARSHIP.

It is greatly to be regretted that the excellent proposal of Professor Penberthy, to establish a Travelling Scholarship, was defeated at the meeting of the Royal College of Veterinary Surgeons last month. It is more than unfortunate that the motion was defeated by such arguments as were used by Mr. Kidd. It is even discreditable and unworthy of the veterinary profession that arguments of this feeble sort are allowed to prevail in these enlightened days. What will our friends of the medical profession say? What must be the contempt and disgust of a man like Huxley when he reads—if he takes the trouble to read—the report of our meeting? How can we expect to gain the esteem of scientific men when our deliberations display such miserable parochial vanity, such narrowness of view, such childish jealousy? It is extremely difficult to adapt oneself to the point of view of men like Mr. Kidd, to see through their spectacles, or, indeed, to understand how they can see through such spectacles at all. Perhaps, the explanation is that they don't see; they merely imagine. We had thought

that scholars and scientific men, all the world over, formed a separate—we might say a select—class, a chosen few, for whom the petty distinctions of nationality did not exist. We foolishly imagined that our bond of science was a kind of sublimated tie of freemasonry, with this difference, that no pompous or formal initiation was required, but that a member of our glorious fellowship received his diploma from heaven at his birth. We supposed that, as disease and death are restricted to no land, but go forth on their grim errand in France as well as in England, in Germany as well as in Spain, so those who have banded themselves together to combat these mighty and terrifying forces, and to teach men the arduous and painful lessons which such things imply, formed an apostolic order, devoted to one thing only, the search after scientific truth ; having only one aim in view, the alleviation of suffering. Apparently, we are quite wrong. There is not one truth but many truths, and everything depends upon the geographical boundary, the precise latitude and longitude. What is good when spoken at 50° north latitude, is entirely fallacious at 51°. Let our readers study their atlases well, and take care that nothing coming from any point more than 2° east of Greenwich, is allowed to pollute their surgery or their library. Beyond the second meridian lies the abode of ignorance and lies ; the Enemy of mankind, himself, is shrewdly suspected to haunt that accursed land, and men who come to this country from the East, are no longer to be looked upon as Wise Men, but quite the reverse. We shudder as we write. There is only one comfort, one consolation; there is a means of detecting the brood, and we owe a huge debt of gratitude to Mr. Kidd for putting us on the alert. He says they are all branded on the breast, and by this token we may know them. And what are the words of such dread import, indelibly stamped on the vile wretches? Mr. Kidd says they are the apparently innocent words, "Made in Germany," but much is hidden beneath the apparent innocence, and it becomes us all, therefore, to be on our guard against this subtle poison.

Perhaps ridicule or satire is the most effective weapon in such a case, and perhaps, also, Mr. Kidd may not have been quite serious when he uttered the foolish words reported to have been used by him. But the unpleasant fact remains that Professor Penberthy's motion was lost, so that a majority of the meeting must have taken Mr. Kidd's words seriously, and the outside world is entitled to conclude that the veterinary

profession is averse to enlightenment if it comes from our brethren on the Continent. We cannot, therefore, leave the subject without discussing it as a very grave one. We are as patriotic as anyone in the profession can be, but we deny that patriotism has anything to do with this matter. We know how much has been accomplished by our brethren on the Continent: how the limits of our science have been extended; how diseases have come to be more carefully classified by them; how many means have been discovered by them of alleviating or preventing disease; and we feel angry when any attempt is made to deny them the credit due for their industry or their skill. We detest everything that savours of conceit or affectation, be it national or personal, and we give it forth as our confirmed belief that, had it not been for the patient and laborious efforts of the Germans, and the brilliant lucidity and marvellous acuteness of our French brethren, veterinary science would not be where it is to-day. We propose to give our readers, every month, translations of the most interesting articles that we find in foreign journals—in continuation of the excellent policy of our predecessor—and we venture to think that these extracts from foreign journals will be adjudged not the least interesting of our articles.

It was well said by Mr. Owen Williams that veterinary students on the Continent had opportunities of gaining higher scientific education than ours, for the good reason that Continental Governments take great care to endow their veterinary schools, and assist this branch, as they assist all other branches, of education. It is difficult for people in this country to realise how thoroughly education is supervised and fostered on the Continent, and especially in Germany. In that enlightened country there is a Ministry of Education, and every school in the empire is under the watchful control of a strong Government department. The vigilance is extraordinary: no village schoolmaster, no country doctor or obscure practitioner, is overlooked if he produces good work or shows capacity for original research. Koch himself was only a country doctor in some remote village when the Education Department of Germany, seeing the ability that was in him, rescued him from obscurity and supplied him with the means of carrying on his beneficent work. Both German and French veterinary journals testify to the thoroughness of the training given to veterinary surgeons in these countries, and show a wonderfully high level of general culture and literary ability, apart from professional skill.

As an illustration of the thoroughness with which these things are done by our Teutonic brethren, we might direct the attention of our readers to two veterinary calendars published, the one in Berlin and the other in Vienna, both of which we frequently consult and which lie before us at this moment. The mass of information which even these little handbooks convey is quite bewildering. In them for example one finds lists of all the medicines used in veterinary practice, with the dose ordinarily prescribed for horse, ox, sheep, pig, and dog; in addition we find the regulation price of the drug. In another section we find lists of the principal forms of poisoning, with symptoms and treatment. In a third section we find most complete and minute information as to the examinations which students have to pass before being licensed to practise veterinary surgery, then exhaustive lists of the charges which veterinary surgeons are entitled to make, and copious extracts from the laws relating to our profession as practised in Germany and Austria, showing the legal responsibilities and duties of the practitioner. Besides these, we find a section on veterinary police, with extracts from the German laws relating to the transport of cattle, the stamping-out of disease amongst animals, and a hundred other things; we do not intend to give here an abridgment of these books, but will dismiss the subject by stating that anyone wishing to find the official veterinary surgeon in any part of the German or Austrian dominions has only to consult them; in them likewise he will find lists of all the veterinary teachers in all the Colleges of the world. We remember that several years ago, when we wished to consult the principal surgeons on the Continent on an important point, we could obtain their names nowhere but in these German calendars.

We trust we have said enough to show the absurdity of disparaging the worth of our Continental neighbours, and the futility of any attempt that may be made to keep out of sight the splendid work they have accomplished. We maintain stoutly that the veterinary surgeons and the veterinary teachers of Great Britain are as good as any in the world, but we do not say that all the wisdom and all the virtue of the profession are to be found in our islands; if we did, we should be but blind leaders of the blind. Our only regret is that we have not the purse of a Rothschild at our command; if we had such a purse we should send every year, at our own expense, one or two of our most promising students to complete their studies at Alfort, Berlin, Utrecht, or Vienna,

and at the same time to extend their intellectual horizon, and we should be glad if we could induce Mr. Kidd to accept a present of a hundred guineas and our letters of introduction to some of the principal veterinary surgeons of the Continent.

EXAMINERSHIP.

It is well that our readers should know that, in future, the method of election for an examinership will be as follows:—"The candidate must send in an application in writing, or get some member to do so, and should sign and send it in himself. The secretary places the name on the board directly he has received the nomination."

PROFESSOR T. H. LEWIS.

It is with deep regret we announce the death, on the 4th February, of Professor Lewis. Professor Lewis was a student at the New Veterinary College, and had a most brilliant career. Not only did he obtain the Highland and Agricultural Society's medals in chemistry, botany, materia medica, physiology, anatomy, Principal Williams' £20 gold medal, but also gained the second "Fitzwygram" of £30, and won that under peculiar circumstances, as, owing to a mistake of the secretary, he did not present himself for examination until half-an-hour late, and then he was only allowed to compete on condition that a telegram of consent was received from London. After graduating he became lecturer in materia medica in the New College, and on the retirement of Professor Vaughan was elected to the chair of anatomy.

Professor Lewis was extremely zealous in his work; he studied the books on anatomy, not only in English, but also the French and German ones, and all of these he corrected by his careful dissections and observations. He was a brilliant and profound lecturer, always eager to assist his students in their work, not only in anatomy but in any subject.

Being of a reserved nature, he was not what might be called popular as a practitioner, but as a consultant his opinion was invaluable. He wrote papers for discussion at society meetings, and took a keen interest in all professional matters. Unfortunately, some years ago he had a very severe attack of scarlet fever from which he never entirely recovered, and thus we have lost one of our brilliant young teachers.

"ARGON," THE NEWLY DISCOVERED CONSTITUENT OF THE ATMOSPHERE.

It goes without saying, that any really important discovery in connection with the common and everywhere present materials of our surroundings, has even before our own generation become a very rare event indeed. It has certainly been assumed by all, except the most critical and prying philosophers that if any one line of research has been worked pretty nearly to its ultimate limit, it is that of the physics and chemistry of the air.

As showing, however, that hopes of arriving at new conditions and properties, if not of discovering new elements in our familiar atmosphere were by no means wanting, we may point to the valuable and highly original methods devised and practised by Professor C. Olszewski, of Craeon, since 1883, in connection with the liquefaction of the permanent gas. Liquid oxygen and liquid air (of which we have all heard a deal from the popular lectures given in our own country) were among the number.

Whether the modern scientific man, who proverbially is the modern representative of the studious middle age monk, with his vows of poverty, could be stimulated to greater aims by the hopes of a money prize, we really doubt, but nevertheless, the valuable prize of 2,000 francs, and several smaller hundreds offered by the Smithsonian Institution since 1891, for original work on the air, might have stimulated a few of the type who are always seriously busy in the research for endowment. We need scarcely say that it has not fallen to the lot of any of that class to disclose the wonders we refer to. As has been long well known, especially since the meeting of the British Association at Oxford, Lord Rayleigh has been for some years engaged upon the difficult subject of determining the densities of most of the permanent gases.

To be short, he has for a considerable time been able to convince himself that nitrogen, as prepared from chemical compounds, is about one-half lighter than when extracted from the atmosphere. The data to be worked with are, however, so minutely different, that the triumph has been well said to be that of the last decimal place. We all know of Cavendish's elegant exposition of what he called "phlogisticated air" by electrical "sparking."

Lord Rayleigh seems to have begun where Cavendish stopped, and found that the minute residue of gas which the older experiments of 1785 failed to account for, is in reality a new element—we should say a newly-discovered element—of our atmosphere, an element existing in immense quantities among us, possibly of profound importance in the organic world, and till now totally unsuspected as to its very existence. We are in duty bound to state that Professor Ramsay has worked along with Lord Rayleigh and been able to produce the gas (argon they have called it) by chemical methods; among these space permits us only to mention the removal of the atmospheric nitrogen by passing air over red-hot magnesium.

Atmolysis has also been used to separate argon from nitrogen, but owing to the small difference of their densities this method does not permit of great accuracy. Although only now clearly shown that the new gas is neither derived from oxygen nor in fact related even to nitrogen, under cover of which it has so long lain hidden, and several "constants" connected with it have already been pretty accurately made out, not the least remarkable is the rather disquieting fact, that it seems to be monatomic, and having an atomic weight of about 40, there is no place really for it in Mendeleeff's table. That this famous table may still be looked on as representing a natural family relationship among the elements, argon must be supposed a mixture; but here again the evidence of Mr. Crookes upon its spectrum and of Professor Olszewski upon its very definite melting and boiling points, as well as its possession of

a definite critical temperature and pressure, render the latter supposition inadmissible. Besides having kept a quantity of pure nitrogen standing for eight months, there was no appearance of dissociation of atoms, and here, the last possible chance of its being some modification of nitrogen was cut off. The following are a few of the properties of argon, named, by the way, from its small desire to be energetic.

Density = 19·7. Ratio of specific heat 1·66. Decided solubility in water, about which we expect to hear more anon. An almost total refusal to enter into chemical combination with other elements. Boiling and freezing points as determined by Olszewski 186·9° C., and 191° C. respectively.

Perhaps the most remarkable physical property of this new element is its remarkable spectrum, of which it seems to have two when examined under different conditions. Its great difference from nitrogen in optical properties is, in fact, looked upon as highly conclusive (were this necessary) that we have here an element distinctly different from nitrogen. We need scarcely say how pleased we are to see scientific men of different nationalities and leanings working together so amicably and so free from that petty jealousy which now and again shows its ugly presence among those pseudo-scientists who, to judge by their work, have little beyond a noisy imitation to be jealous of.

Let botanists, biologists, *et hoc genus omne*, be up and doing and see how argon can be made to account for some of their hitherto inexplicables. All hail, we say, to pure science, even though apparently on perfectly non-utilitarian lines, for of a certain the day comes round when all true knowledge becomes useful, and no art needs more the helping hand of science than that of medicine in all its branches.

RECENT DISCOVERIES IN RELATION TO BACTERIA.

Dr. Edward Long Fox, in his admirable address as president of the British Medical Association, at its recent annual meeting, summed up some of the most important recent advances in the science of bacteriology as follows:—

"It is well known now that abscesses caused by staphylococci have a tendency to remain localized, while those from streptococci are often followed by metastatic abscesses, as in erysipelas, puerperal fever, and ulcerative endocarditis. We know now that the tubercle bacillus is found in chronic bone disease; and that if this bacillus exists alone, the disease is a chronic one, while if the streptococcus pyogenes is present also, the disease is more quickly fatal; that the suppurations accompanying tuberculosis are due partly to the tubercle bacillus itself, or, rather, to the poisons resulting from the action of that bacillus, but partly also to other micro-organisms; that the bacillus diphtheriæ is found chiefly on the surface of the false membrane, and that the fatality of that disease depends on the poison secreted by the bacillus diphtheriæ, while the presence of streptococci renders the disease more grave, the increased virulence being due to the existence of both these organisms together.

"We find that acute pneumonia is caused by the pneumococcus of Talamon-Fraenkel, although often associated with the streptococcus pyogenes. This pneumococcus, too, may produce abscesses in patients free from pneumonia, as in purulent pleurisy, ulcerative endocarditis, and suppuration of the nasal fossæ. The fact that this microbe exists in the saliva of healthy people proves that these diseases have also a non-microbial element. Some condition of the sympathetic, influencing the calibre of the blood vessels, or some morbid condition of the vagus or of the accelerator nerves, or some

inherited vulnerability, with all its possibilities, must probably be precedent factors.

"The typhoid bacillus is often accompanied by other micro-organisms, especially the streptococcus pyogenes or the staphylococcus aureus and albus."

A READY MEANS OF PROCURING AND TRANSMITTING DIPHTHERIC DISCHARGES FOR EXAMINATION.

BY D. J. HAMILTON, M.B., PROFESSOR OF PATHOLOGY, UNIVERSITY OF ABERDEEN.

CONSIDERABLE difficulty is often experienced in removing diphtheric discharge, false membrane, or slough from the tonsil or fauces, and in transmitting these expeditiously in a pure state to the laboratory where they are to be examined. What I find usually happens is that the discharge is put into the first bottle which comes to hand, and hence is much contaminated before it reaches the laboratory. The discharge which is most likely to contain the bacillus, namely, that overlying a slough or false membrane, moreover, cannot always be scraped off owing to the medical attendant being unprovided with a proper instrument for the purpose. Delay is also caused owing to the bottle having to be packed up, etc.

With the object of overcoming these difficulties I have adopted the following method of collecting and transmitting the discharges—a method which promises not only to be satisfactory, but which at the same time is so simple of application that any practitioner. however preoccupied, can readily make use of it.

An ordinary three-quarter inch wide test tube is fitted with a tight plug of cotton; into this plug of cotton is inserted the end of the cedar wood handle of a small goat's-hair brush. The handle should not come quite through the plug, but be securely tied to the superfluous cotton at the mouth of the tube. The brush should be so long that it reaches close to, but is not in actual contact with, the deepest part of the tube. If it is desired to prevent evaporation, the end of the tube should be covered with a loose caoutchouc cap. This, however, is usually unnecessary, as the time occupied between the removal of the discharge and its transmission is never likely to exceed twenty-four hours. The tube with the enclosed brush is now sterilised in the hot-air chamber, and a printed label with spaces for the name of the patient, date of removal, duration of disease, name and address of practitioner attached. The tube is made to fit into a small padded box, to which an address label is attached. All that the practitioner has to do is to withdraw the plug with the attached brush, to which it forms an excellent handle, while the mouth of the tube is held downwards, to scrape off some of the discharge from the affected parts with the brush, to replace the cotton plug and attached brush in the tube, and send off the box with enclosed tube by post.

In starting a culture on blood serum or other basis the brush which contains the secretion is rubbed over the surface of the medium.

The advantages which the method seems to possess are: (1) That the discharge is removed by and received in sterilised instruments; (2) that the brush is an excellent means of collecting the discharge, and does not alarm the patient by its appearance; (3) that everything being ready for sending off by post no time is lost in transmission; (4) that the brush is again an excellent instrument for spreading the discharge over the surface of the culture basis; and (5) that the cost of the apparatus is trifling. These sterilised tubes could be kept by local apothecaries, and be had on a moment's notice. They are of small bulk, so that they can readily be carried about when required.

Army Veterinary Department.

London Gazette, February 5th.

Gazette.—ARMY VETERINARY DEPARTMENT.—The under-mentioned veterinary lieutenants to be veterinary-captains. Dated 4th February, 1895 :—Edward Taylor, Alfred Joseph Haslam, M.D., F.R.C.V.S.

Arrivals.—Veterinary-Lieutenant A. S. Trydell has been granted six months sick leave of absence from India.

London Gazette, February 19th.

Gazette.—ARMY VETERINARY DEPARTMENT.—Veterinary-Major E. Ewing to be veterinary-lieutenant-colonel, to complete establishment. Dated February 18th, 1895.

Veterinary-Lieutenant F. C. Stratton from half-pay to be veterinary-lieutenant to complete establishment. Dated February 20th, 1895.

Moves, etc.—Veterinary Lieutenant-Colonel E. Ewing will take over the duties of inspecting veterinary officer, Madras presidency, relieving veterinary-lieutenant-colonel G. Kettlewell (Indian veterinary establishment) who retires on retired pay.

Veterinary-Lieutenant F C. Stratton has been posted to Aldershot for duty.

Reviews.

REPORT OF THE SPECIAL COMMITTEE appointed by the Council of the Royal Agricultural Society of England to inquire into Abortion in Cattle.

Outbreaks of abortion in cattle have of late years been of very frequent occurrence, and the Agricultural Society of England has done good service in making inquiries into the causes which induce them, and the means to be adopted for their arrest.

The pamphlet contains the evidence of veterinary experts who have had special opportunities for gaining a knowledge of the conditions under which the outbreaks occur, and also that of owners of herds which have been visited by the disease.

There is a good deal of difference of opinion among the experts as to the causes in operation where abortion is prevalent on a farm. Sympathy, sewage, ensilage, mangolds, insanitary surroundings, ergot, etc., are all upheld and in turn pooh-poohed.

Some very remarkable evidence is afforded, tending to show that the disease is a distinctly contagious one. The Society has granted a sum of £200 for the purpose of making experimental investigations in this direction, and they are at present being conducted at the Royal Veterinary College.

The opinion that epizootic abortion is a contagious disease, and that it can be eradicated by injections and applications to the external genitals of a solution of perchloride of mercury (half a gr. to one ounce of water) is firmly held by many who have had to deal with these very troublesome and disastrous outbreaks.

Mere isolation of aborted cows will certainly not prevent further cases; the pregnant animals should be treated, and an ordinary two-ounce female glass syringe is a capital instrument for the purpose of applying the solution. This is the treatment initiated by Professor Nocard and recommended in the pamphlet for adoption when an outbreak occurs.

The most perfect sanitary surroundings would seem to afford no protection, the disease being quite as prevalent where the byres are clean and well drained and the water and food supply above suspicion as on farms where the animals live in filthy houses, eat frozen turnips and mouldy hay and drink

water contaminated with the drainage from field yards. Ergot, which was thought to be a frequent cause of abortion, is shown to have nothing to do with the disease in its epizootic form, and sympathy, fright and other conditions, which are commonly assigned as causes where occasional abortions happen, are held to have no causal influence in extensive outbreaks.

WRIGHT'S BRITISH CATTLE TRADERS' CALENDAR. A. M. Wright & Son, 27, Duke Street, Glasgow.

Contains a great deal of useful information. A well-arranged table of all the fairs and markets held in Great Britain and Ireland. Besides notes on railway routes, live stock insurance, live stock importation, etc.

Extracts from Foreign Journals.

PSEUDO-LUXATION OF THE PATELLA—BASSI'S OPERATION.

IN a paper read before the *Société Centrale de Médecine Vétérinaire* at Alfort (France), M. Cadiot says :—"Pseudo-luxation of the patella—the catching of this bone on the table of the femoral trochlea—resists only in very exceptional cases the means ordinarily used to reduce it. Up to the present moment I have come across only one obstinate case, which required the cutting of the internal straight ligament, an operation recommended by Bassi for cases of this sort. The horse on which I performed the operation was sent to me last January, with the following information, by M. Favereau, veterinary surgeon, Neufchâtel :—'This horse is the progeny of a stallion remarkable for his conformation and his speed. When the colt was about two years old, its owner observed, time after time, now on the off hind-leg and now on the near, that the stifle-joint stopped working. The owner went on training him all the same, and the animal used to do a kilomètre in 1 min. 50 sec. (= 1 mile in 3 minutes) but during his trials frequently one leg became suddenly stiff and rigid; the patella was caught, and the horse stopped in the middle of the course. This trouble, which was at first attributed to passing influences, became persistent, in spite of several applications of absorbents. The reduction was easy enough, but as soon as the animal began to run again, the immobility of the stifle-joint returned. Last October we point-fired the stifles: the anomaly disappeared on the near leg, but persisted on the off; for the last two months it has been almost permanent.'

"The owner, thinking that a cure was hopeless, wished to make an end of the matter, but our *confrère* asked me if I did not think there was a possibility that an operation might succeed, before destroying the animal. I proposed the cutting of the internal straight ligament; my proposal was accepted, and a few days later the animal was sent to me.

"When he was standing, one could see nothing abnormal about the attitude of the affected limb, and it seemed to rest on the whole plantar surface, but as soon as the animal began to walk, the leg, stiff and rigid, was simply trailed along the ground, describing a slight abductory movement; supported by the lateral part of the hoof only. When the pace was quickened, the animal walked on three legs.

"The reduction was difficult to effect in a standing posture, and the patella remained only a few seconds on the trochlea. Repeated blisterings and cauterisation had completely failed; on the other hand the affection was of old standing—it went back nearly two years—and the horse had become emaciated. It seemed to me that cutting of the internal tibio-patellar ligament was the only means that offered a chance of success. Accordingly, it was performed on 30th January. The horse was laid on the side opposite to the affected limb, then placed on his right side. His left hind-leg was shackled, as if for castration, for the purpose of exposing the internal face of the right

stifle. Taking the antiseptic precautions necessary in similar cases, I cut from behind forwards and from the inside outwards, with the help of the ordinary tenotomy knife, the internal tibio-patellar ligament, near its tibial insertion. Only a very little blood escaped. The wound, after being dried with wadding, was closed with a layer of iodoform collodion. When the horse rose to his feet it was found that the affected limb had recovered the complete liberty of its movements, its play being as regular as that of the other. Next day the region was only slightly swollen; there was no suppuration and no uneasiness in its movements. Temperature hovered about 38 degrees Centigrade (100 Fahrenheit).

"When the animal left the College, on the 5th February, the cure was complete—there was no trace of disease or of the operation. In a letter dated about the beginning of July, M. Favereau, speaking of the horse, said:—'For about a month, your patient was exercised only at a walking pace and after that at a gentle trot, without any appearance of suffering; his condition rapidly improved, and now he has grown fat again. At the end of two months he trotted easily a kilomètre in two minutes (about $3\frac{1}{5}$ minutes to the mile). At the present moment he is splendid and may turn out a good racer. The cure is thorough and the success complete.'

"He has, indeed, turned out a good racer, as is proved by an extract from a letter of M. Favereau, dated 18th November last:—'Your patient *Orphelin* has gained three trotting matches this year. He is to run at Vincennes on the 20th inst., and if nothing out of the way should happen he will likely come in first.' He did run and he did come in first, beating eight competitors. Cutting of the ligament of the patella has therefore given, in this case, a result therapeutically perfect."

NOTE ON MALIGNANT PUSTULE.

BY E. JACQUOT, VETERINARY SURGEON, SAINT NICOLAS DU PORT, FRANCE.

THE dangers to which veterinary practitioners and also workers about farms are exposed lead us to consider malignant pustule as a matter of great interest for our profession. We have known for a long time that infectious diseases present themselves in forms that vary according to the species of the animal attacked, and, further, that their mode of working is influenced by the conditions of the animal's life. Anthrax shows this kind of variability. The *bacillus anthracis*, which in a few hours works irreparable mischief in the strongest bullock or the sturdiest sheep, seems to be rather indulgent with regard to man. This divergence in its pathogenic efforts is due to a greater power of resistance in the species as well as to the manner of contagion. Disease virus, like all other poisons, has a more or less rapid action, according as it is deposited on the surface of the skin or mucous membranes, or in the thickness of the tissues. Blood from an animal affected with anthrax, when it happens to soil the human body, manifests a sluggishness of action which astonishes the veterinary surgeon, and generally allows him to neutralise the virulence then and there, whilst the struggle is going on between the bacillus and the human organism. If a great number of such accidents have been followed by death, it is because the individuals affected were not familiar with this peculiarity of anthrax, and presented themselves to the surgeon only after general invasion of the organism had taken place.

The case which I am going to describe will show how malignant pustule is evolved. It occurred with a farmer of my acquaintance, one of my clients, who I am sure had received some stains of anthracic blood on his face. For two days his attention was constantly fixed on a red spot on his face, which was slightly itchy, like a flea-bite. He did not give very much heed to this—and yet he lives in a district that has been infected for years, perhaps centuries! On the third day a little inflammatory zone spread all round the base

of the spot; then a vesicle, like a blister, made its appearance, whilst the itchiness increased. On the fourth day the vesicle burst, probably as the result of being scratched. It presented a violet-coloured background, which quickly turned brown, and then black, and then became covered with yellowish concretions. Alongside this first vesicle, after it burst, there rose other smaller ones, filled with serum. The inflammatory zone spread gradually towards the neck, and began to interfere with the patient's swallowing. The pustule was at its fifth day of development when the family began to be alarmed at the dangerous symptoms, in spite of the fact that the patient made hardly any complaint of suffering pain. Hearing that I was in the neighbourhood, they sent for me and asked my opinion. In presence of the very alarming symptoms, I advised that medical aid should be called in, and that without a moment's delay, and I offered my services for the purpose. An hour later I returned, accompanied by two doctors, who were able, with myself, to diagnose the following symptoms:—The eschar of the first pustule seemed actually depressed, so greatly had the surrounding tissues become swollen; this eschar, about a centimètre in diameter, was surrounded with little vesicles filled with serum (*areola vesicularis* of Chaussier); the subjacent tissues were swollen with an œdematous inflammation, which extended to the neck and breast; deglutition was becoming more painful on account of the compression of the larynx and the nerves, which made us fear the imminence of asphyxia. Temperature 38·5° Centigrade (=100 Fahrenheit). A strange fact, but characteristic of malignant pustule, is the defect of sensibility. The condition of the patient was considered extremely critical by the two doctors, and they performed cauterisation with the thermo-cautery. This operation was supplemented by iodized injections and by compresses of a 1 in 1000 solution of corrosive sublimate. Before the application of this treatment I had managed to collect some of the serum from the vesicles and some blood from the thickness of the tissues immediately subjacent. The serum was injected under the skin of a guinea-pig, which died fifty hours after inoculation, presenting all the lesions of anthrax. The blood of the patient, examined under the microscope, proved to be quite free from bacteria.

What do these facts prove? They show that man offers greater resistance to anthrax than the majority of our domestic animals, since the malady in him has merely a local effect for five or six days; it is only after the lapse of this period that the micro-organisms end by attacking the circulation and bring about general symptoms, signs of genuine infection. Metchnikoff has tried to explain this peculiarity by the theory of phagocytosis, but other scientific men, such as Ziegler, Koch and Lubarsch, have shown on the contrary that there is no connection between the intensity of phagocytosis and the evolution of anthrax. The anatomical disposition of the skin plays a certain part in these local phenomena, which simply mark the period of inertia during which the organism is defending itself against a parasitic attack. The important point for us veterinary surgeons is to recognise malignant pustule in the early days of its evolution, in order to stop its progress by rational treatment, consisting of cauterisation and antiseptic compresses. I trust my account of this case will be the means of arousing the attention of my fellow-practitioners, and will convince them of the efficacy of the treatment, even when applied at an advanced stage. I will only add that my patient recovered, notwithstanding the physiological importance of the affected parts.—*From the Recueil de Médecine Vétérinaire.*

ENZOOTIC ENTERITIS IN THE HORSE, PRODUCED BY THE *TÆNIA PLICATA.*

The pathological disturbances produced in our domestic animals by the various known entozoa being of great diversity, and the observations bearing

on this point being very rare in veterinary literature, I think I am doing a service in reporting the symptoms presented by several horses affected with parasitic enteritis, which formed part of the stock at an important agricultural establishment in Brabant.

About the month of March last, I was called into consultation by my esteemed *confrère*, M. Derycke, for the purpose of examining some colts, which presented vague symptoms of some disease, to which two of them had already succumbed. M. Derycke and the owner reported to me that some months before, whilst the colts were still at grass, one or two of them had shown signs of strange disturbance. The weather was very dry at the time, and, as the grass was insufficient to feed the colts, the owner had a quantity of green clover scattered about the field; but, in spite of the scantiness of the grass, several of the colts showed great indifference to the clover, and some of them even remained lying on the ground, as if they were indifferent to everything about them. Even then the colts were losing flesh; but after a time, although no treatment was used, they regained their former condition, and were supposed to be cured. Towards the end of the pasturing season they became lean again, and for this reason they were brought in at night as soon as the first frost made its appearance. They passed the night in the stable and were let out in the morning when the hoar-frost had gone. The very second night, severe diarrhœa occurred in the case of one of the colts, and the appetite became capricious; at the end of two days the patient refused all solid food. It was this colt that I had occasion to examine, and the following is a statement of the symptoms which I observed:—Pulse quickened (70) and very feeble; artery soft; mucous membranes (conjunctiva, pituitary, gingival) very pale; respiration quickened (36), superficial; temperature *per rectum* very variable, but never remaining high, the average being $38\frac{1}{2}^{\circ}$ to 39° Centigrade (95° to 100° Fahr.). The animal forces were considerably reduced, and the colt moved from side to side with indifference, swaying slightly on its hind quarters. His appetite had entirely vanished. Auscultation of the abdomen enabled me to hear rumblings of a metallic sound. The hair of the tail and the hind limbs were covered with excremental matter. The parts between the thighs were excoriated, and the derma exposed, through the irritant action of the excreta. At very short intervals the patient threw out, in an unconscious and passive manner, jets of excremental matter, completely liquid, and these jets went to a great distance. The emission was not accompanied by expulsive efforts, nor by contractions of the abdominal muscles; it may, therefore, be presumed to have been caused solely by peristaltic movements of the intestine. The matter thus ejected had a filthy smell. The flank was rigid (stiff, stretched); the belly "tucked up"; the lumbar region rigid and insensible to pressure. The most important symptom of all, and one which was at once observed in all the affected animals, was the extraordinary emaciation which took place. The patients seemed actually to dry up, to such an extent that at the end of seven or eight days they were reduced almost to skeletons—mere skin and bone. I must state here that the establishment of which these animals formed part was extremely well looked after, and that the colts were in a most satisfactory condition of sleekness before turning ill.

The general nature of this disease was not difficult to diagnose, but I confess that I was not prepared for the etiological factor which the *post-mortem* allowed me to discover. I had before me a case of enteritis, essentially prostrating (adynamic) and infectious in character. The patients being young animals, my colleague and I had for a moment supposed that the trouble might be brought about by parasites, but we had in view only the *ascarides*; we never suspected *tæniæ*. Having noted the adynamic and infectious character of the disease, we applied a treatment in accord with the symptoms

observed. The patient received an electuary containing nux vomica, creosote and salol; in addition to this we administered salicylate of bismuth dissolved in claret—three bottles per day. For drink, the colt was allowed to get as much milk as it liked, with the addition of a little boiled water; for solid food, boiled rice and a little oats. The loose-box was disinfected with *eau creolinée*, and thoroughly ventilated. Despite, however, of our most assiduous care and the greatest attention, the emaciation went on increasing, and at the end of a few days the patient, being quite incapable of movement, was destroyed. A *post-mortem* was performed immediately by M. Derycke and enabled us to observe, in addition to the symptoms of extreme anæmia, slight diffuse enteritis extending over all the intestinal mucous surface; the principal disturbances were in the small intestine and the small colon. With regard to the contents of the intestines—entirely liquid—we fonnd, in addition to a few *ascarides* here and there, a very large quantity of worms which I recognised as *tæniæ plicatæ*. These worms, which are also called *anoplocephalus plicatus* by M. Railliet, are thus described by him, and the specimens sent to me corresponded with his description. They are 9 to 80 centimètres ($3\frac{1}{2}$ to $31\frac{1}{2}$ ins.) in length; head thick, short, square, but slightly rounded and depressed in the direction of the two faces, from 4 to 6 millimètres (·15 to ·23 in.) in breadth; cup-shaped suckers pointing forwards. No neck. Rings becoming rapidly broader than the head and continuing no increase in breadth, sometimes towards the middle, sometimes towards the extremity of the chain, acquiring a maximum of 5 to 20 millimètres (·19 to ·78 in.), increasing also in length to the last ring. M. Railliet adds that this parasite is seldom found in the small intestine and still seldomer in the stomach of the horse. Most writers, including Neumann, Krabbe, Hering, Röll, and Zundel, agree with M. Railliet in saying that the *tænia plicata* is rarely found in the horse and is almost inoffensive, but my experience in the case I have described goes to prove that the presence of this parasite may be the beginning of disorders which end only in death.

I endeavoured to trace the origin of the disease which carried off the colt; and as I suspected the water, I made further inquiries of the manager. He informed me that the fodder used in the stable had never been better than it was that year, and that the grass of the meadow was of excellent quality. The colts had passed the summer season in two different meadows; one of them, which had been newly laid out, was dry; the other, an older pasture, was more humid. In the former, they drank water coming from a spring; in the latter, on the other hand, from a watering-place which had been there for twenty years. The water was collected by a trench, and came from meadows and drained lands, the trench receiving, likewise, at the time of heavy rains, the overflow water from the farm. I presume, therefore, that it was from the water that the colts got the eggs of the *tænia*, because the adult horses, which received almost the same solid *food* as the colts, presented no symptoms of any disorder whatsoever.

With regard to prophylactic treatment, I recommend, first of all, careful feeding, because it is a matter of common observation that enfeebled subjects become more easily the feeders of entozoa than do strong and hardier animals. I likewise recommended the daily administration of absinthe to all the colts that had been at pasture with the dead animals. In addition to this, care was taken to supply the colts with water from a well, which had all the characteristics of good drinking-water. These measures were evidently fatal to the development of the entozoa, as not a single colt has become ill since then on that farm.

[Communicated to the *Annales de Médecine Vétérinaire* (Brussels) by M. F. Hendrickx, of the Veterinary College, Cureghem.]

Proceedings of Veterinary Medical Societies, etc.

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

(Continued from page 137.)

WHAT the principal part of veterinary graduates want is capital, and it is often the lack of it which makes them do things they would otherwise scorn to do. It is to be hoped that with the increased educational requirements of the profession that there will be more capital introduced and a higher moral tone imparted to it than has hitherto been the case. I believe that contracts will be more common than they now are, and that farmers will see that it is to their advantage to enter into such engagements with the practitioners, and to my way of thinking it is a distinct advantage to the veterinary surgeon, as he is thus secured a safe income, and when he is doing well for his clients he is doing well for himself. I fully believe that a great deal of the quackery which now goes on in the country will be considerably curtailed when the practitioners are more evenly distributed.

I have no doubt that our services will be more and more required in the future than at present, to advise and assist in the selection, examination, and purchase of horses, this branch having largely increased of late years and in my judgment will continue. I am hoping that the time will come when no stallion will be used for service unless his owner can produce a certificate signed by two or three qualified veterinary surgeons as to his soundness and freedom from hereditary defects. I believe this is done in some districts already, but it ought to be still further extended.

I hope that the Government having succeeded in stamping out pleuro-pneumonia and foot-and-mouth disease will take ample precautions by a system of rigid inspection to prevent their re-introduction into this country. The two diseases they are now engaged with, viz., glanders and farcy, and swine fever will not be stamped out at all unless they act in a more energetic manner than they are now doing. I am hopeful that they will then tackle that dreaded disease of the stockowner, tuberculosis. If so, they will have a long and arduous task before them, and no doubt our profession will find sufficient employment for some time to consider eradicating it from the herds of this country.

I believe that the Government will also have to introduce compulsory notification of contagious diseases in animals.

With the introduction of district councils, I am hoping that in time we shall have appointed district veterinary surgeons who will be paid a small salary per annum for inspections, similar to what the medical men have at present under the rural sanitary authorities. There is plenty of scope for them and sufficient duties they could perform, but the general public still require educating up to that point which is necessary for their institution. I am hopeful that in a few years it will be possible by means of scholarships or exhibitions to provide for the further education of our graduates on their leaving college either by going abroad to the laboratories of distinguished savants, or by the British Institute of Preventive Medicine, in order to fit them for scientific investigation, or for teaching or for taking up some of those appointments which at present go in too large a proportion to the medical profession. It seems to me that we shall now have an opportunity for assisting in this way by subscribing liberally to the Jubilee Memorial Fund which is nearly sure to be used in this direction. In the past, my own opinion is that our members have been somewhat shy and diffident in taking part in public affairs, but that in the future, with increased educational facilities, they will be found more and more to the front in public life, and that the profession will ultimately reap the benefit of it.

It behoves each one of us to do the best we can to further the interests of

our profession, and in no way can we do this more effectually than by conscientiously doing our duty to our patients and to our clients, and by maintaining our self-respect and conducting ourselves as gentlemen, we shall gain the respect and approbation of our fellow-men, and if each individual member of the veterinary profession were to keep this ideal well before him and live up to it, I have little fear but what its future will be a brilliant and an honourable one. Thanking you, gentlemen, for your patience in having listened to me for so long, and hope that we shall have a good discussion.

Mr. CARLISLE opened the discussion on the paper, which, he said, was a capital one. There had been very great improvement in the profession during the past fifty years to his knowledge—he did not think any profession could have progressed so fast. There were many things to contend with. They had bright men amongst them, and they had also dull men; but the latter were capable of very good work sometimes in a country place. There was far too much distinction made between the great men in big towns and the small country practitioners. He many a time thought they ought to have a House of Lords and a House of Commons in the profession. Then they would get the thing done properly. He believed in many of the matters brought forward by Mr. Awde. One thing in particular he held out for was that a man should be two or three years a pupil before he got his diploma. Many who got their diploma without serving as pupils beforehand, were of very little use. This was a bad thing, and threw cold water on the profession more than anything else. He thought there should be a board to examine everyone properly, as they did for the army. If men were not competent to treat ordinary diseases, he would not allow them to practice at all. If he knew nothing when he went to college, he would know nothing when he left—for anything that he could see there. Let them serve two or three years with a veterinary surgeon before entering the veterinary college. He had no fault to find with a man with a shoeing-forge. It was no disgrace to the profession to know how to dress a horse's foot. He remembered that old Professor Coleman used to say—"Farriers' sons make the best veterinary surgeons." In 99 cases out of 100 in a town practice it was the limb or foot which required attention. A town veterinary had not half the things to contend with that a country veterinary had. For twenty years he might never see half the variety of cases which came before the latter. Put one of the men he had spoken about into a cowhouse, after leaving college, with a protracted case of labour, and get him to take his coat off—what sort of a figure would he cut? It was necessary these men should be able to do all these things before they could be called real veterinary surgeons. Mr. Awde had read a beautiful paper, and he hoped he would pay them a visit another day.

Mr. MCINTOSH said the subject was one they were all interested in, even the very oldest of them, like Mr. Carlisle and himself. Some of the points he at once fell in with, but one or two he differed upon. Like Mr. Carlisle he was a delinquent and had a shoeing forge, and he had felt it a benefit to himself and the profession, for this reason, that he could get work done and assistance rendered which he could not get if he were without it. It was one of the essentials of the profession that a man should be able to handle a horse's foot, and he could do it no better than in a carefully regulated forge. There was no reason why the outside world should not have confidence in sending their horses to be shod at a forge under the careful superintendence of a professional veterinary surgeon. As to the County Council lectures, he expressed his opinion that the more a farmer knew of the veterinary profession the better it was for the profession, because he became alarmed sooner and called the veterinary to his aid instead of working in the dark himself. With regard to the remarks on country veterinaries he confessed himself a farmer, and said, "it took it all;" but he did not think it would do a practitioner much

good in a small village to take a little farm. It was doubtful whether in a country village he could make as much as would maintain him respectably in an ordinary way. He agreed that the education of the veterinary student was of vast importance in enabling him to take a respectable position in society, to be at the front in public posts, and to become a respected citizen is one of the first things which would improve the standing of the profession. Nothing in the profession or without it had done him as much good as taking part in the work connected with public institutions in his district. For fifteen years he had been a director of the infirmary, and he had also been associated with the local hospitals, and the Town Council and County Council, and it had done much in placing him in the front among people who begin to respect a man who respected himself. But he felt sure they would not do very much by legislation to help the profession beyond the fact of better education and making a veterinary student actually know what he was dealing with. Such a paper as they had heard they would do well to discuss once a year, and they would then be better able to keep an acute eye on those who led the profession, and press their views upon the members of the Council. With regard to the Board of Agriculture, he considered it was a disgrace that there should be laymen inspectors, men who practically knew nothing of the work and deriving emoluments which ought to belong to the veterinary profession. He had seen their work In Dumfries over swine fever management. He would not like to say much about his opinion, for fear it might go further, but he had an opinion and a very strong one on the way in which this business was carried out. It was so strong that he had written and remonstrated on the management, and in one case in particular, where he had put restrictions on, he heard no more until the inspector came round and put on other restrictions, but forgot about the time they should be taken off, and when later he arrived and told the farmer the time had expired and he might now sell his pigs, they had been sold three weeks before and there was nobody to find out. The local authority knew nothing, and once restrictions were put upon a farmer the case was in the hands of a travelling inspector and they never heard more of him. The inspector got his pay, got a good dinner, and told the policeman to "shoot the pigs." The Society should insist on attention being drawn to the matter, so that the profession should receive from the Government the emoluments which were their due.

Mr. H. Thompson said Mr. Awde's paper was an excellent one. He had mentioned higher education, which was an excellent thing—he, himself (Mr. Thompson), had never had any. He could say this, that farmers who had been at the Edinburgh Veterinary College, men like Mr. William Norman, and Mr. Carr of Silloth, and had attended Dick's and Brown's lectures, did not attempt to tinker with a horse or cow themselves; they knew that a little knowledge was a dangerous thing, and they sent off at once for the veterinary. The expense of making veterinary surgeons now was very great. A farmer's son was selected as making a good country veterinary. But where was the farmer who had £600 to spend on his son to fit him for the profession, when he had to go into the country and make £200 or £250 a year? The game was scarcely worth the candle. He was one of those combined-calling gentlemen, and if it had not been for the managership of the Aspatria Agricultural Co-operative Society, he did not think he would have stayed at Aspatria, as the practice was not good enough. Then again, he gave lectures for the County Council, and in letting the people see the dangers of tinkering with diseases, he considered he was doing a benefit to the profession. He agreed that there should be an enforced pupilage among students, as he believed they were getting too scientific rather than practical. He had been 34 years at Aspatria, two at College, two at Carlisle, and four at Whitehaven, and he was yet in his pupilage. They were always learning something, and it was a

great disgrace to send green men into the profession unless they had a practical knowledge.

Mr. GARNETT moved: "That the Society urge upon the Council the necessity of compulsory pupilage of at least two years before a man can obtain a diploma." What he learned and knew, and the benefits he received at college, were of very little practical good to him as a practitioner. The great benefit he received was from a pupilage of three or four years, between the time he went to college and the time he qualified. Any one of the subjects taken up by Mr. Awde was sufficient for one of the Society's meetings. He had taken up a strong position as regards the union of the Council with the Farriers' Association in London. Smithies and shoeing should be made a special branch of veterinary surgery, and should not be left to common artizans. He saw no disgrace in a man having a shoeing forge, provided it was worked as a special branch of the profession, and they become specialists on diseases of horses' feet. He also expressed a strong opinion in the matter of advertising, and pointed out that a medical man never advertised his name on every bottle he prescribed.

Mr. CARLISLE took up the question of advertising, and defended the custom. He mentioned a case where a "wine-glass full" of liquid blister was prescribed, and said it was owing to the name on the bottle that they found out who the fool was.

Mr. MCINTOSH said medical men were bad dispensers of medicine, and needed a buffer between them and their patients. He would not allow a bottle to go out of his place without a proper label on it.

Mr. THOMPSON thought they toadied to too much of this sort of social business. A country practitioner could not afford it.

Mr. SOULSBY, referring to pupilage, mentioned Professor Pritchard and his students, when the Professor examined them in taking a rug off a horse and putting it on again. Not three-fourths of them did it right, and the Professor said he was ashamed of them. Little things like that ought to be done properly. He next mentioned the bandaging of a horse's leg, and said the bandage was often either too slack, and fell down over the foot, or it was too tight, and the leg was swollen above it through simple compression. Then, looking at the age of a horse, many would force open his mouth as if they were prizing open an oyster; it was a simple matter to open the lips with two fingers, which was all that was necessary. All these things proved that a man ought to be a pupil before he went to college. He also alluded to meat inspection, and his experience of a case in which he was unable to get his fee from the local board, because the medical officer said he had only given a private opinion. He considered that veterinary surgeons ought to be meat inspectors.

Mr. ARMSTRONG said they were all indebted to Mr. Awde for bringing the subjects mentioned to the front as he had done. Medical men were said not to advertise, but he did not know a class of professional men who advertised in a meaner way than they did. The very fact of a man taking his horse and trap to see a neighbour a few doors away was sufficient to let the public know that "Dr. So-and-so is out." As to meat inspection, he pointed out to Mr. Soulsby that seeing the carcase he spoke of was in a public slaughter-house, where there was a recognised meat inspector, it was impossible to obtain a conviction in the case. It was not exposed for sale. All that could happen was that the meat would be condemned.

Mr. SOULSBY said his point was that a medical man was not competent to inspect meat.

Mr. ARMSTRONG: I agree with you. He added, with regard to county council lecturing, that he did not believe in it in any shape or form. He did it because if he didn't, somebody else would. It was nonsense to expect to make veterinary surgeons of persons who attended five or six lectures.

Mr. THOMPSON said such a thing was never expected.

Mr. ARMSTRONG said country people thought so. He considered that a student should complete his pupilage before he got his diploma. He seconded Mr. Garnett's motion.

The motion was carried unanimously, and it was agreed to forward it to the President of the Council.

Mr. AWDE replied on the discussion. He agreed that farriers' sons made the best veterinary surgeons, but he thought a veterinary surgeon need not be associated with a forge. He could not, of course, be too closely associated with a knowledge of the horse's foot. He (Mr. Awde) could go into the forge of any person, and advise as to shoeing, and any man in the place would take the advice as it ought to be taken, quite considering that he was competent to give advice. Mr. McIntosh said he believed the superintendence of the forge by a qualified veterinary surgeon was an advantage. He differed from that. If a man had a good practice the superintendence of the forge would devolve upon the foreman. As to County Council lectures he considered harm was done by putting in young men to give them; he was glad to find in Cumberland they were given by men of Mr. Thompson's experience. He approved of advertising on bottles, and pointed out its desirability in towns where it was important to know the exact residence.

Mr. HOWE also made a few remarks, and the proceedings closed with a vote of thanks to Mr. Awde for his valuable paper. Mr. Awde having replied, a hearty vote of thanks to the President brought an interesting meeting to a close.

JOHN ARMSTRONG, *Hon. Secretary.*

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE quarterly meeting in connection with the above Association was held at the Hotel Metropole, Newcastle-on-Tyne, on Friday, November 16th, 1894, W. A. Hancock, Esq., President, in the chair. The following members were present: Messrs. J. B. Nisbet, H. Hunter, Vet.-Major Durrant, J. E. Peele, A. Dalgleish, T. Lanchester, J. W. Rider, G. M. Mitchell, J. Gofton, J. W. T. Moore, A. Hunter, W. Hunter, and the Secretary, F. T. Finney. Visitors: Professor Williams and P. Moir, Edinburgh; Dr. George Murray, and Messrs. Peele, Jun., and C. Campbell.

The minutes of last meeting were taken as read and adopted.

Election of Officers.

Mr. H. HUNTER proposed, and the Chairman seconded, that Mr. G. M Mitchell be elected President for the ensuing year, which was unanimously adopted. Messrs. J. E. Peele, Durham; and J. W. Rider were elected vice-presidents; Mr. F. T. Finney was re-elected secretary and treasurer, and Messrs. G. Elphick and A. Hunter, auditors.

The CHAIRMAN, in calling attention to the next subject on the agenda—adjourned discussion on Mr. Thompson's paper on "Parturition"—said that Mr. Thompson was not present, and would not therefore be able to reply to any remarks that might be made. Unless there was anyone present anxious to take the matter up, he thought the best plan would be to defer it.

New Instruments.

Mr. HUNTER said he was going to suggest that the Society should have a set of instruments such as Mr. Thompson has. He had a very complete set of instruments for parturition. Could not the Society provide a set for the members?

The CHAIRMAN thought that if a man could not calve a cow with his hands

and arms, instruments would be of very little use to him. He asked if they did not think that some teeth instruments would be better and more useful for their members. His own opinion was that something of that sort would be very useful. They had a balance of £11, and they could get a little value for their money if they had it invested.

After further discussion, it was decided on the motion of Mr. Hunter, that teeth shears and teeth forceps be purchased for the Society, and, on Mr. Peele's suggestion, a chloroform bag was added to the list.

The following is an Abstract of an Address by Professor GEORGE MURRAY, M.B., on

"TUBERCULOSIS."

When your energetic secretary, Mr. Finney, asked me to address you to-day upon some subject connected with the study of bacteriology, I was rather at a loss as to what subject might interest you most. After consideration I came to the conclusion that there was no disease which engaged the attention of both the medical profession and the veterinary medical profession in common so much as tuberculosis. The subject is as large as it is important, and to-day the time at my disposal will not allow me to do more than deal with a few questions which concern us both, and in the consideration of which we meet on common ground. Of the treatment of tuberculosis I shall to-day say nothing, for I feel that in the case of animals I can tell you nothing which you do not already know far better than I do. The cure of disease which has already developed is not by any means the sole duty of either the medical practitioner or of the veterinary surgeon. One of the most important duties, and I may say one of the highest privileges of both professions, is the prevention of disease, for truly "prevention is better than cure." Satisfactory and pleasing as it is to cure disease, how much better when sickness with all its attendant miseries can be prevented altogether. The importance of this comes home to us when we remember how many diseases of men and animals are due to preventable causes, and as the Prince of Wales so pertinently remarked at the opening of the International Hygiene Congress in London, "If preventable, why not prevented?" Here we meet on common ground, for many preventable diseases which attack man are transmitted to him from the lower animals. Hence all measures which are undertaken by the veterinary profession for the prevention of the spread of communicable diseases among animals also tend to diminish the channels by which such diseases are conveyed to man. Anthrax furnishes a good example of this. For this reason I consider that all organised systems of veterinary inspection are of the highest importance to the well-being of the community at large. It is only by careful and constant inspection that the earliest signs of disease can be detected and precautions taken to prevent the spread of the disease. In tuberculosis we have a common enemy. In one form or another it is said to be answerable for one-seventh of the total number of deaths which occur annually in Eutope, and in domesticated animals it is also a fearful scourge. Our knowledge of the disease has increased greatly during the last twelve years, since the brilliant discovery made by Koch that tuberculosis was caused by a specific microbe, the tubercle bacillus, a bacillus which is the cause of tuberculosis of both man and animals. As a result of this discovery, many forms of tuberculosis which formerly were not recognised as such have been recognised by the presence of the tubercle bacillus. The discovery has not only led to an exact and scientific classification of the various forms of the disease, but it has given us a definite test by which the nature of doubtful specimens may be accurately determined. We thus have a valuable aid to food inspection. Samples of meat are frequently submitted to microscopical examination for this reason, that the naked eye appearances are not

sufficiently characteristic to show the nature of the disease. If the microscopical examination reveals the presence of the bacilli the question is settled at once. Such examinations are, however, only necessary in doubtful cases, and require a considerable amount of time in addition to a practical knowledge of the methods of examination and the use of the microscope. A still more delicate test for the presence of the bacilli in food or milk is the inoculation test, but this requires still more time, and often no definite answer can be given till several weeks have passed. Moreover, in this country but few possess the necessary legal permission to perform such experiments.

[Dr. Murray then described the characters of the tubercle bacillus, and showed how Koch had proved that it was the true cause of tuberculosis (*a*) by demonstrating its presence in all cases of tuberculosis, (*b*) by obtaining pure cultivations outside the body on artificial media for many generation, (*c*) by reproducing the disease by inoculation, (*d*) by finding the bacillus living in the animals which succumbed to inoculation tuberculosis. He then showed that the most common channels of infection in both man and animals were (1) by inhalation of dust containing bacilli, (2) by swallowing infected food.]

In man and animals infection of the lungs often takes place from the inhalation of dried particles of the discharges from diseased lungs, which contain the bacilli in large numbers. Thus stables and sheds may easily become infected by such discharges from tuberculous animals.

In man, and especially in children, infection from milk is common, not only from milk from diseased udders, but even from milk from the healthy udder of an animal with tuberculosis in other parts of the body. A cow may also infect a calf by the milk. Tuberculous meat is answerable for the infection of man in some cases. In animals I am unable to speak as to what kind of food may convey infection. But it appears probable that one tuberculous beast in a shed may readily infect the stall if it has any discharge from the respiratory passages, and so pass on the infection to any other healthy animal which is afterwards put into the same stall. A phthisical cow-keeper may readily infect the cows under his charge if he spits carelessly about the cow-shed, so that some of the bacilli become dry and are inhaled by the cows, or are mixed with their food and swallowed. Other channels will suggest themselves to you who are familiar with the habits and management of animals more intimately than I am. What I wish especially to impress upon you is that very few human beings or animals are born with tubercle bacilli already in them; at most they inherit a predisposition, that is to say, the tissues are favourable soil for the bacilli, but that in nearly every case the bacilli gain access from outside after birth. This is the keynote of the prevention of tuberculosis. We must direct our attention to the prevention of the spread of bacilli by diseased animals, living or dead. If we succeed in doing this successfully, tuberculosis will rapidly diminish in frequency.

Wild unimals are rarely tuberculous, but soon become so in confinement, not because they have grown so much more susceptible to infection, but because they have encountered the germs of the disease which they did not come across in their wild state. How can we prevent the distribution of tubercle bacilli? By careful disposal of discharges. By disinfection. No person suffering from phthisis should have charge of dairy cows, as the consequences may be so serious if he infects even one of the cows. I advocate isolation of all suspected animals, and slaughter of all which have undoubted tuberculosis. The difficulties may be great, but the end justifies the means.

Many valuable beasts succumb to tuberculosis, and in the interests of cattle-breeders alone it is advisable that the disease be stamped out by every means in our power. Even if this economic aspect of the question did not exist, when we see the amount of misery which is produced by tuberculosis,

especially in the children of the poor in our large towns, the importance of such measures comes home to us.

The Danish plan of systematic veterinary inspection of all dairy cows and cattle intended for the market is most excellent. The inspection must, however, be repeated frequently. By aiding the early diagnosis of tuberculosis in cattle we may feel sure that tuberculin will be the means of saving great numbers of lives, for it is the sharpest of detectives for discovering even small tuberculous nodules lying hidden away in remote parts of the body. In this way it enables animals to be isolated and killed before they have done much harm. You know how difficult it is to recognise tuberculosis in the early stages. In man it is difficult enough, but more so, I should say, in cattle. In man the microscopical examination of the sputum is a valuable help to diagnosis, as the bacilli are often numerous when the other signs of the disease are but slight; this method might be employed in animals when the disease affects the lungs and there is some discharge to examine.

Tuberculin is a glycerine extract containing the chemical products of the tubercle bacillus. Bacilli, like other organisms and animals, form certain excretory products which in many cases are powerful poisons. A culture of the tubercle bacilli is grown in broth, glycerine and carbolic acid are added, and the whole is filtered through porcelain to get rid of the bacilli and obtain only their chemical products. This is diluted with nine parts of 1 per cent. carbolic acid solution to one of tuberculin. When a small quantity, 40 to 80 minims, is injected into a tuberculous animal a rise of temperature takes place in from three to 20 hours. The syringe must be disinfected by washing out with 5 per cent. solution of carbolic acid or 4 per cent. of creolin in water. The injection is made behind the shoulder blade beneath skin which has been previously disinfected. The temperature must be taken in the rectum every three or four hours for some hours before and for 24 to 48 hours after the injection, the thermometer being left in for three minutes each time. A distinct rise of 1° C. to 5° C. above the average normal temperature may be taken as evidence of reaction. When this reaction takes place experience has shown that in by far the larger proportion of cases tuberculosis is present.

It is probable that the test is correct in more than 90 per cent. of cases, but on this point we require further statistics. On the other hand, if tuberculosis is present in an active form the animal hardly ever fails to react. Where the tuberculous focus is small and calcareous there may be no reaction, but probably in these cases the disease has practically been cured.

When the reaction takes place in a milch cow I maintain that the cow must no longer be used for the supply of milk for human food. Bacilli taken in milk appear to be unusually dangerous, and it may be that along with the absorption of the fat in the alimentary canal the bacilli easily gain access to the mesenteric glands, for this form of tuberculosis is terribly common in children.

The question of the use of meat of tuberculous animals is a large one. Experiments show that such meat, even though healthy in appearance, may convey the disease; so that I consider such meat should only be sold with a label signifying that it was from a tuberculous animal. This will allow the public to buy with open eyes, and to take especial care in cooking such meat. If such meat is cooked with care I believe the danger of infection is minimised, for tubercle bacilli are easily destroyed by heat. Boiling rapidly destroys the bacilli, so that milk can be sterilised by boiling for a minute.

We must not, however, be content with these precautions only. The sheds which have been occupied by diseased animals must be disinfected before others are allowed to use them. All parts must be washed, sprayed with perchloride of mercury solution, then thoroughly white-washed, and as much fresh air and sunlight admitted as possible.

This question of tuberculosis is one of pressing importance, for, if not attended to, the disease will become more frequent. The cases of unsuspected tuberculosis are common in England. Of this we gain a fair idea by the number of animals which, when slain because exposed to contagion of pleuro-pneumonia, turn out to be tuberculous. Such animals are supposed to be healthy, and are killed because they may be in the incubation period of pleuro-pneumonia. In Professor Brown's report to the Board of Agriculture in 1892, we find that in London 25 per cent. of such animals were tuberculous; in Midlothian, 20 per cent.; in Yorkshire, 22·8 per cent.; in Durham, 18·7 per cent. Tuberculin was found to be a reliable test in 90 per cent. of the cases.

In America, in the State of New York, three veterinary inspectors were recently appointed to go through each county to examine the herds and to kill infected cattle. They first made a physical examination: if the presence of the disease was suspected, tuberculin was injected. If a reaction took place the animal was killed. Partial compensation is made by the State to the owners. During last year these inspectors examined 20,000 animals; 686 were found to be infected, and were killed. No mention is made of testing apparently healthy animals with tuberculin.

In Denmark, the tuberculin test only failed in 2 per cent of the cases. The Government made a grant of 50,000 crowns for the expenses incurred by the tuberculin tests throughout the country. In Denmark, if an animal reacts to the test, it is fattened for the butcher. The meat, after inspection, is branded with a special stamp, indicating that the animal has suffered from tubercle, and the public are cautioned that it must be well cooked. In one case, Professor Bang found that 80 per cent. of the cattle in one herd were infected.

In England, all herds of cattle, and especially all dairy cows, should be inspected at regular intervals by special veterinary inspectors, who should be empowered to employ the tuberculin test whenever they deem it advisable; in fact, all milch cows should be tested with tuberculin at each visit, even though they may be apparently healthy. If a milch cow reacts it should be isolated at once, and the milk no longer used for food, and the shed must be disinfected. Meat from tuberculous animals should be boiled thoroughly at the slaughter-house, and sold with a special mark upon it. Compulsory notification of the disease to the sanitary authority is necessary also, to ensure the efficient carrying out of the precautions. Whatever loss is incurred by the owner should be made good by the State, for the State as a whole benefits greatly by the decrease in the frequency of tuberculosis.

Discussion.

The CHAIRMAN, in opening the discussion, said he thought they would all agree with him that Dr. Murray had dealt with the matter in a most satisfactory manner. It had always been a pet subject of his (the speaker's), and he might say that in the main he fell in with the suggestions of Dr. Murray. But there was one thing of very great importance, and that was the wholesale destruction of meat derived from tuberculous animals. He thought that was wrong. He thought they should wait for the harmful effects of even tuberculosed meat on the human subject before they condemned it. He considered that the doctor's suggestion, to sell such meat under stamp so that the public could know what they were buying, to take precautions accordingly, was by far the better method. With regard to milk, it was different altogether. Something must be done to stop the harmful effects of the sale of tuberculosis milk. He had even been into a cow-byre, not only here, but in other parts of the country, and directly one got inside he said, "Here is a collection of wasters." He had been where there were 20, 30, or 35 or more, and the

impression forced upon one on looking at them was that they were all wasters. His opinion was that such cowkeeping should be done away with as a pest. As to the question of heredity, he was not quite sure whether they did not get it in an hereditary form sometimes. He had seen it in a calf three days old, and it could not be suggested that that was derived from the milk. Dr. Murray had spoken of inoculation and isolation of suspected animals, and had advocated the prompt destruction of all tuberculous animals. He thought that was going too far. Tuberculosis, he took it, was different altogether to pleuro-pneumonia and swine fever. You often went from ten to twelve months from the introduction of a wasting cow into a byre before seeing the dire result of the introduction. Therefore he thought that this disease should be treated on distinctly different lines to swine fever and pleuro-pneumonia. If they could devise some scheme for inoculating suspected animals, and then isolating them and fattening them for the kitchen, he thought that would be sufficient.

Professor WILLIAMS said he could only express his pleasure at being present to hear such an able and exhaustive paper read. There were one or two questions that he wished to refer to, and particularly that of heredity. In his experience he had seen the offspring of tuberculous bulls, where the dam had been perfectly healthy, and where the young one had never seen its father, but you would find that these young animals when two or three years old, developed the disease. It was very singular indeed, but they did see tuberculosis in young animals. There could not possibly be any infection there, but he thought that if they looked at it from another point of view, they could understand it. He thought the doctor would allow him to say that both cattle and human beings are all surrounded by tuberculous bacilli. There was so much of it spat about the ground, that it was always about. He did not say for a moment that this young bull developed the disease without bacilli being injected into it somehow; but he thought the constitution, and soil, and predisposition to the disease was heredity. In this way they could account for some of their best breeds of cattle being affected—cases where the cows were perfectly healthy, but the bulls were tuberculous. He thought that the constitution which was favourable to these bacilli was undoubtedly hereditary. In the next place, as to the meat, they must remember that there are two kinds of tuberculous animal—that was to say, two developments. They would find a good one fattened for Christmas, and he maintained that such an animal was perfectly fit for food, but under certain conditions it would be better to sell it at such a place as a licensed shop. In Germany they allowed the meat of the "piner" or "waster" to be sold. He would not like to see that done in this country. The very look of such meat was enough to make a man sick. He did not think that the meat of the "piner" should ever be sold even under a licence, but it was a great hardship when the local authority found the meat of one of the other class of animals, and at once condemned it. Perhaps the butcher has paid £20 or £30 for it, and he got no compensation at all. The nodules might be scraped off, and perhaps the sides destroyed. Then they knew that by proper cooking the bacilli were destroyed. He maintained that there was no danger in eating the meat of the fattening tuberculous animal. As to the milk, that was another thing. The question of the milk should be taken up at once; no time should be lost. There was another thing he wished to refer to. In his peregrinations, he had come across tuberculous young horses brought up for show purposes. About a year ago he saw in Lancashire a two-year-old colt which had taken first prize at a show in London. It was about a £300 colt. He went to see it, and found that it had tuberculosis. He asked the owner if he gave it milk, and the reply was, "Yes, plenty of it." He had no hesitation in saying that the disease in this case had been got from the milk that the colt

had been fed upon after it left its mother. He had nothing more to say except to express his thanks to Dr. Murray for his very able and lucid paper.

Mr. HUNTER did not know that he had much to say, but he had a lively recollection of one byre that they attended for many years. In this they had a certain percentage of tuberculous cases. The others seemed well, but he thought they were never without a case on the premises. Some animals seemed to resist the disease, but others to succumb to it. The byre was a ricketty old place with sanitary arrangements altogether bad, and the marvel was that any of the animals escaped at all. There were only one or two of what might be called "piners;" the others seemed to hang on and to be fairly well. With reference to heredity, he was strongly of opinion that the disease was hereditary, and he thought Dr. Murray would bear them out in that—he thought the doctor did not contend that it was not hereditary. In the human family it had been considered to be hereditary, and he thought that it was hardly a question of hereditary liability to the disease. He thought that the bacilli must be transmitted from the bull to the fœtus in the cows.

Mr. MOORE said it was now about 15 years ago that a discussion took place on this subject in Manchester, when he raised a storm among many members of the profession by the views he gave expression to. He had held for years a rather strong opinion about the sale and consumption of milk and meat from tuberculous animals. It would be in the recollection of some present that eight years ago in a discussion on the subject in this Society he said he did nor care how much it was infected with tuberculosis, an animal so infected was unfit for food. Mr. Hunter got up at that time and said he thought that an animal should not be condemned unless it showed unmistakable signs of tuberculosis during life. He (the speaker) said "If you only saw the carcase where do you draw the line? you cannot draw the line." He thought now that if any tuberculous deposit was found on a carcase that carcase was unfit for food. A danger certainly existed. Although it was said that proper cooking would destroy the bacilli they had still to consider the large class of people who like their meat underdone. With regard to milk he had said before that the excessive infantile mortality was due to milk from tuberculous animals. He must say that he was considerably staggered when at a meeting of this Society two years ago Professor McFadyean said that the number of children dying from that cause was very small indeed, and that the cases of infection through the alimentary, were almost infinitesimal in number. However, Professor Murray had told them that day that he had made many *post-mortem* examinations on children, and the numbers dying from this cause were large. He quite agreed with the suggestions made by Dr. Murray for dealing with the disease. At the meeting held in Manchester he asked if the Government would not take the matter up and stamp out the disease, and all round he was met by emphatic cries of "no." Still he had not changed his opinion. Every year strengthened him in the opinion that the Government ought to take the matter up. It was a difficult matter to deal with, he admitted, but still a small modicum of good might be done. If the Government did nothing else it would suppress in a short time the traffic in what was known as "piners." It was his privilege to try and stop the traffic from Denmark in "wasters." It evidently struck some brilliant minds over there that they would save themselves by sending their animals to England, and Newcastle seemed to be the centre to which they sent them. It was a most aggravating thing to go in among about a thousand cattle a week and find some animals that they were sure had tuberculosis, and then to find the animals' temperature normal and have to let them go. One day his colleague sent for him and he went and saw twelve cases. He valued them at £40 the lot. They killed one and found it infected with tuberculosis. They got an expression from London

with regard to the lungs. The report was as they expected; it was tuberculosis. In a short time one of the other animals died, and ultimately the Inspector condemned another eight as unfit for food. They stopped these cows coming in, and the affair caused a great deal of attention both here and in Denmark. For about two years after that they never had an animal that could be called a "waster" sent over. They thought it a monstrous thing that this country should be made the landing place for these animals, and they thought they would try and stop the traffic in them. They put their foot down, and it was a long time before they took it up again.

Mr. GOFTON said there were two or three practical questions that he would like to suggest for their consideration. Suppose they went through a byre exposing milk for sale and found two or three cases infected with tuberculosis, what were they to do with them? The second was, if there were no slaughter-house where butchers were compelled to slaughter their animals, how were they going to get proper and efficient inspection? The public required to be enlightened on these points. He was afraid that there was a good deal of bad stuff getting into the market; not only animals affected with tuberculosis but also animals that have died an unnatural death find their way there.

Mr. J. E. PEELE said he had had a lot of experience in cases of this kind. He found once in a byre that he visited every cow was tuberculous. There was no doubt that in crowded towns the infection was very great. He certainly thought that the disease was hereditary, for it would be found to have gone through whole families of cows. He thought they knew what caused tuberculosis, and the thing now was to get to know how to kill the bacillus. That was the great problem of the day. In all infectious disease the thing was to get to know how to kill the bacillus or microbe.

Professor WILLIAMS remarked that the milk from a tuberculous udder conveyed the disease to the majority of the animals that take it, but if it was diluted with about 50 per cent. of other milk the danger becomes less. It was an undoubted fact that milk from an infected udder conveys the disease to those who partook of it.

The CHAIRMAN said that to those who thought that there was no great activity of the microbe producing tubercle at the time of calving, he would say that he had often found cases where cows were pretty well until after they had calved, and then they would go into rapid decline—a type that they would call "galloping consumption."

Mr. PEELE said he could bear the Chairman out in that. He had a case that morning where a cow was delivered of twins, and as soon as she got rid of them she developed tnberculosis, and he advised putting her down.

Professor MURRAY replied to the discussion. With regard to the heredity question which had been dwelt upon by a good many speakers, he was afraid he had not made himself quite clear. What he wished to convey was this, that the actual disease is not often hereditary. It certainly is sometimes, but what he maintained was that such cases were not common. Professor Williams had put the point well in the cases mentioned by him. There was probably something in the tissue which made it suitable soil for the disease, but he thought it hardly possible for the father to actually transmit the tubercle bacillus. He thought that must be of rare occurrence, and he thought that, as Professor Williams put it, there it must have been a predisposition to the disease. That is what was inherited in many cases, and the infection takes place afterwards. Another point in favour of his view was this—as Professor Williams mentioned—the disease is rarely seen in very young animals. If an animal was born with the disease in it, it would show it in the first month. If it does not, it is evidence that the infection must have occurred after birth. As to the last remark of the Chairman as to cows often

going into a rapid decline after calving, that he was very much interested to hear, because it was a well-known fact that among human beings the same thing happens. He was also much interested to hear of the cases of horses fed on tuberculous milk developing tnberculosis. That is rare. The fact of them taking it from the milk, he thought, showed that there was something in the milk that rendered it peculiarly virulent. As to what Professor McFadyean said about children being affected with tuberculosis, he would reply by saying he thought that about one-third the cases he had examined were cases of tuberculosis. He was very glad to hear Mr. Moore's remarks about stopping the traffic of "wasters" from Denmark. He thought that they all owed a debt of gratitude to Mr. Moore for his efforts in that direction. As to the exact steps to be taken with a tuberculous animal found in a byre, he did not know what the actual state of the law with regard to that was, but he certainly thought that the animal should be removed, the byre disinfected, and the animal killed if necessary. No milk that came from it should be sold. It was true that when the milk was diluted with other milk, it was less virulent, but they had to remember this: suppose there were seven cows in a byre, one of which was tuberculous, if the milk from that cow were kept to itself, only a few people, perhaps, would drink it, but should it be mixed with the milk from the others, it would be spread over a large number of people, though in a less virulent form. As Mr. Peele had said, what was wanted was something to kill the bacillus without injuring the animal. That was certainly what they were looking for. In conclusion, he must thank them for the very kind way in which they had received what was a disjointed paper, and he was very much obliged to them for discussing the points he had raised so thoroughly.

Professor WILLIAMS proposed a vote of thanks to Professor Murray for his able paper. He thought that both himself and his friend from Edinburgh had been rewarded for their long journey. For medical gentlemen to read such papers as this at their meetings was very beneficial, and they should do all they could to assist the other profession.

Mr. HUNTER seconded, remarking that more of them should attend the classes over which Professor Murray presides at the Durham College of Medicine. They could not do better than go and make themselves conversant with the study of bacteriology.

Mr. MOORE, supporting, said they stood on similar grounds to the other profession—the great object of both was not so much to cure as to prevent disease.

Professor MURRAY replied, and said a warm welcome would be extended to any of them who wished to take up the study of bacteriology at the University of Durham College of Medicine. They hoped in time to have more accommodation there for the study of large animals.

The Retiring President.

Mr. HUNTER proposed a vote of thanks to the retiring President. This was the last meeting, he said, when they would have the pleasure of seeing him in his official capacity. They were all sorry he was leaving the district, for he had always been a pleasant professional brother to meet. He had been a very able President, and he hoped they would often have him among them again.

Mr. MITCHELL seconded. From a selfish point of view he was sorry that Mr. Hancock was going, for he was saddled with his duties during the next twelve months.

The vote was heartily carried with acclamation.

The PRESIDENT, returning thanks, said he would like to reassure Mr. Mitchell by telling him that when he took office twelve months ago he thought

he would not get through it, but Mr. Mitchell would find that they had such a good Secretary in Mr. Finney and such a good corporation, that the duties of the office were made very light indeed.

After the meeting several members sat down to a complimentary dinner to Mr. Hancock, prior to his leaving for his new residence in the South, and a most enjoyable evening was spent.

F. T. FINNEY, *Sec.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE annual meeting of the Scottish Metropolitan Veterinary Medical Society was held in the London Hotel, Edinburgh, on Wednesday afternoon, 20th February, Professor W. Owen Williams in the chair.

Retiring President's Address.

Professor WILLIAMS, in demitting office, said: Unfortunately, the first remarks I have to make are of a sad description. The first associate of ours that has died since last meeting is the late Professor Walley, who at one time belonged to this Society, and for many years was a most interested and interesting member. He was keenly anxious in all subjects brought up for discussion, and we miss him very much. The next is the late Professor Lewis, who was known personally to the majority of us as he was a New College student, and the majority of the members of this Society are New College students. He had a distinguished college career, and gained almost every medal that it was possible to gain. He was one of the best practical men I ever knew. As a consultant I admired him, and his opinion was always sound and good. I have also to refer to the death of Mr. Burnett, who was at one time President of this Society. He always took a great interest in the proceedings of the Society, and did his best to advance it. The last name is that of Professor Gamgee, who was in the veterinary profession long before my time. Professor Gamgee at one time had a veterinary college in Edinburgh, but he deserted his profession and devoted himself to more congenial matters. In him the world has lost a very eminent man, and it is with very much regret that I have to announce the death of those four eminent and useful members of our profession. Before I sit down I should like to mention one or two things that have happened during the year in which I have held office. In the first place I think it is a matter of congratulation that we have a new veterinary medical society started in the North of Scotland. We wish them the very best of life, and we have made up our minds to assist them as much as lies in our power. The next thing is to congratulate the West of Scotland Society on waking up, after having been in a moribuud condition. We are glad to see that they have started meetings. Their second meeting was held recently, and your secretary and myself attended. We had a long paper by Mr. Malcolm, and an interesting discussion on many things. Another thing which our own Society may be congratulated upon was the passing of an Act last year for the Prevention of Cruelty to Injured Animals. At one time if an animal was injured in the street it had to lie there till the owner came and gave his permission for its slaughter. Now it is the policeman's duty to find out the nearest veterinary surgeon, and if he is of opinion that the animal is incurably injured, he gives a certificate which can be acted upon by the policeman getting the animal destroyed on the spot. This is a step in the right direction, and one that will prevent a great deal of unnecessary suffering. I cannot say whether the initiative in this matter was taken in consequence of the remarks made at last year's meeting of the Society, but it would seem that it had. It has recently been suggested that an ambulance

should be established in Edinburgh for the removal of animals injured in the street. You will agree that that is a capital suggestion and one that ought to have been carried out long ago. In American and Indian towns there are such ambulances for the removal of animals which are not sufficiently injured that they need to be destroyed. Principal Williams has brought forward a motion in Edinburgh Town Council that such an ambulance should be obtained. The Society for the Prevention of Cruelty to Animals has offered to assist Principal Williams by giving him money if necessary to get this ambulance. This of course has only a local import, but I intend to suggest at the next Council Meeting of the Royal College of Veterinary Surgeons, that they should grant a sum of 25 guineas for the best plan of an ambulance cart submitted to them. The profession will then be able to know what is the best cart that should be provided, and that members of the profession in the various parts of the country will be able to request their corporations to get this special cart. Then I would suggest that the Society for the Prevention of Cruelty to Animals should offer in return for this, say 25 guineas, and perhaps other 10 guineas as prizes for the best essays on the best methods of giving what may be called first aid to horses and other animals. If these two things were done the chances are that we would have veterinary surgeons bringing forward their views on the matter. We would then be able to start horse and cattle ambulance classes, and we would do away with the distressing sight of horses and other animals with broken legs suffering for hours from great pain. I have now to call upon Mr. Cameron, your newly-elected President, to take the chair.

The New President's Address.

Mr. John Cameron, Berwick-on-Tweed, then took the chair, and delivered his Presidential address as follows :—

Gentlemen,—I really cannot see any good reason why I should be occupying this exalted position to-day, when we have so many worthy elders and fellows who could far more ably perform the duties and are entitled to the honour. However, I shall do all I can to uphold the honourable reputation of our Association, but I trust that more than ever every member will feel that the reputation and usefulness of the Association is in his hands as well as in mine. Then will its glory continue and increase. For the unexpected but highly esteemed honour I tender you all my most sincere thanks.

A presidential address is generally expected to be something learned and stirring. There is also in the present times a great craving for something new. I must confess I have nothing new or startling to lay before you. I am even doubtful if I can compare with the good housewife, "who makes old things look amaist as weel's the new." Like her, I think there is a deal of usefulness in some of the articles we have been using, and would try on this occasion to extend and increase the benefits which they might be made the means of conveying.

In combating the evil and promoting the good which we desire we should ever remember that union is strength. Acting on that principle, we find men everywhere combining together to promote their combined as well as individual interests. We are not altogether defective in this respect, as we have a minimum number of Veterinary Medical Associations. But I think their number, vigour, and usefulness ought to be greatly increased.

I think that greater and continuous efforts should be made to have every member of the profession included in the active operations of some "Professional Association." I think we should have an Attendance or Vigilance Committee. Their position would give them more power and influence with negligent or careless members. I said combined interests, because I fear very much that many members of our profession have in the past neglected

the general good, unless they were able at the same time to see some immediate personal benefit. I fear the indifferent attendance at many Association meetings must be set down on many occasions to very unsatisfactory reasons. How often does a member stay away because he thinks he knows sufficient about that subject? or it is not an interesting or practical subject. A knowledge of the subject is not likely to make him more skilful in to-morrow's duties.

He never thinks that practical cases may be brought forward. Also, that it is his duty on every occasion to give as well as get benefits. He seems to forget that "There is a giving which does not impoverish, and a withholding which does not enrich."

I have always been of opinion that, on most occasions, we expect too much from the member who brings forward a paper on some special subject for the meeting. Our expectations on these occasions of hearing a deal that is new and of great practical benefit, without having to give anything in return, is far too common. I think, also, that the scope and variety of work taken up by our associations might be extended. At some of the meetings of the National Association we had practical demonstrations, and I think we might have the same on some occasions at our District Association meetings.

There are also questions of national veterinary policy and practice to which I think we have not given all the attention and assistance which we should have done. I admit that we have done a large amount on behalf of some subjects, but we fail to obtain any practical result. Why? Because we do not organise and bring the full power of all our associations to bear simultaneously on a given subject when it has become ripe. I think we might copy with benefit from Presbyterian Church government in this respect. One of the subjects which most urgently calls for our united support is tuberculosis in all cows in registered cow-sheds; or rather, I would extend it to all dairy cows where the milk is used as milk in its natural condition. The farmer's servants and his children should have protection as much as the urban householder. Why does this question linger so long by the way? No doubt there are various reasons, but I make bold to say that the greatest of all is the apathy and half-finished efforts of the veterinary profession. Are the public aware that in the majority of cases there is no veterinary examination of the cows that supply them with milk, and that in many cases they are in a shockingly diseased condition? Not only are the public ignorant of the facts of the case, but in many cases the members of our urban sanitary authorities also. Then whose duty is it to enlighten them? I say it is ours, not only to tell them but, as I said long ago at a National Association meeting, to demonstrate the subject to them. Had we done our duty to the public on this subject in the past, by demonstrating the facts and petitioning Parliament thereon, the public would have gone with us, and the subject would have been in a more forward and satisfactory condition than it is to-day. When we consider the great attention that is given to protect the public from all kinds of dangers by competent inspectors, I do not think that the inspection of dairy cows should be left to police or sanitary inspectors, many of whom have never passed any examination of any kind for the post they occupy. I think we should take immediate steps to have the following question asked in Parliament: Do the Board of Agriculture believe that the inspection of dairy cows and cow-sheds under the Dairies Orders by police and other non-qualified inspectors is competent and satisfactory from public and animal health points of view? I expect the answer would show the necessity there is for us to grasp this subject with more vigour than we have applied to it in the past. Also that we should petition Parliament, and do everything we possibly can to hasten the solution of the subject. I have indicated the

necessity for public *post-mortem* demonstration. There is just one difficulty in doing so, and I will be very pleased to join with any others in overcoming it. It is that we may purchase or exchange suitable *post-mortem* subjects from some other district so as not to hurt the reputation of any local cow-keeper, who may be more to be pitied than blamed. I may tell you I have made a beginning on this subject by specially demonstrating a very good subject to my urban sanitary authorities. The only practical result was, I was sent to examine some cows in a field, and I found the side-by-side neighbour cow was also badly affected, although in various outward respects looking healthy. I showed them the *post-mortem* of this also, but the subject was quietly shelved. I therefore do not advise you to waste time by doing it in halves. Invite both the urban sanitary authorities or County Council, and the public, and do not be disturbed, although some persons may say we are interested parties. The subject has long been past the stage of personal delicacy.

Another subject that we have taken easy, and allowed them to give us the go-by in, is that of veterinary inspectors under the Contagious Diseases (Animals) Act. Many of us are aware of the condition in which Cumberland was placed some years ago when the county local authority thought it was quite sufficient if they conformed to the letter of the law, and appointed one veterinary inspector for the whole county, with the police, to do the work generally. At that time the veterinary surgeons throughout the county, feeling themselves ignored and slighted, allowed pleuro to have its own way. The disastrous consequences by-and-by could not be hid any longer. Very possibly some local authorities never knew why so much pleuro came from that district. Others may have forgotten. The question naturally arises, "Did the Board of Agriculture learn the lesson which was plainly set forth at that time?" Also, did they recognise the excellent results which were obtained in, say, Aberdeenshire and Berwickshire, where every district was under veterinary inspection, and where no case was decided until it had also been seen by the consulting county veterinary inspector? Had the Board of Agriculture forgotten all this when they recently sanctioned the procedure of an important county in Scotland in dispensing with all, save one, of its veterinary inspectors? Oh no; and a number of wise men will ask, "What of Northumberland and other counties with their one veterinary inspector?" Very simple. Other veterinary inspectors, including myself, although our services were dispensed with, felt, though the legal ties had been unreasonably broken, that there was the higher moral law still binding on us, and we have continued acting our parts faithfully as far as possible, although we have been ignored and denied the thanks and the rewards to which we were, and are now, morally entitled. We claim, and can prove our claim, to part of the honour in these counties. But why do we quietly submit to be thus shunted? Why do we not discuss it at our associations and send up petitions to Parliament demanding justice all round and reasonable uniformity? Is the importunate widow not being frequently acted in Parliament?

Swine fever, being still in active operation, has direct claims on our attention. And the question at once arises, "What of its management by the Government and the Local Authorities? Does it affect us in any way? Yes, in various important aspects. Do the public believe—have they not the right to believe—that the Government of the day engages the best veterinary advice that the nation affords, and the Local Authorities the same, and that the efforts and regulations put forth for the eradication of swine fever is in accordance with the scientific knowledge and common sense of their veterinary advisers? Well, do our veterinary associations, and the professions generally, approve of the ways and means taken to rid us of that disease? If not, then

why do we, by our silence, give consent to the ridiculous, harassing, unfair regulations which are constantly being enacted, either by or with the consent of the Board of Agriculture?—regulations, their only use frequently being to give work to the police and magistrates; staining the character of honest, honourable men, also enabling farmers in certain counties, who give no heed to either the breeding or feeding of young pigs, to prohibit imports into their districts, to set aside free trade, and thus directly raise the price of young pigs to farm servants and county neighbours, giving themselves the coveted protection at the expense of their neighbours. Another aspect of this whole subject is the action of the veterinary department of the Board of Agriculture, and the veterinary inspectors of the local authorities. If we were to ask the Board of Agriculture and the local authorities, "What position does the veterinary surgeon hold in these bodies?" I have no doubt many of them would say, "They are our servants." In one respect, quite right. Ask the agricultural world and the public generally the same question, and they will admit the first answer forms a small part of the full answer. They are like the town clerks, the professional advisers of their respective bodies, and as the town council follows the advice (legal) of the town clerk, so in like manner should the advice of their veterinary advisers be followed. The question may well be asked, "Was their advice taken in the times of foot and mouth disease and pleuro, and is it taken now in regard to swine fever?" If it was not taken, or is not taken now, then, is it honourable for them to allow the lay or amateur members of their respective bodies to ignore their advice, and they to say nothing, but quietly draw their salary and get accustomed to the affront? Do the public not expect and believe that the rules and regulations to which they have to adhere and obey, are by the advice and sanction of their veterinary advisers? Certainly; and if they see little or no sign of common sense in the regulations to which they are subjected, if these are the best that our choicest members can advise, then what esteem can they have for the rank and file of the profession? Why do they not insist on having the right methods carried out, even to details, or resign and let the public know why? Then they would be loyally supported by their brethren and the public. In regard to the question of the Board of Agriculture and their employment of non-qualified inspectors, I think the subject is so large, important, and even pressing, that I would advise not only this association, but every other association, to appoint a small select committee, the whole to form a joint committee who would consult together, devise and advise a unanimous course of active procedure on the subject. Isolated, fragmentary items on this subject would be of no avail, would only do us harm.

There is another subject on which this Association has spent a good share of time, viz., the Canadian Pleuro Question, which some may think sufficient. With me the question is, Have the desired results been obtained? If not, then with renewed energy try again, and ask others to help us. I made a suggestion last summer to the National Veterinary Association that they should take up this question for solution this year. A good deal has taken place on this subject since then, and it now stands in a position which is not only a disgrace to the Government, but it also disgraces the profession, and I hope every association will soon take it up, and demand that positive, reliable evidence shall be produced and demonstrated as to the real nature and name of this disease. Why do we not petition the House of Commons, to ask, to demand, that the Board of Agriculture shall investigate the subject, or put it into the hands of experts to solve? We have frequently to answer questions and discuss the subject with Mr. Farmer, and others, and what answer can we give? Nothing decided or satisfactory. How many, or, rather, how few, members of the profession would dare to say that it is real pleuro-pneumonia,

or that it is not pleuro? The Government and the Board of Agriculture, from a political point of view, have been acting very wisely. From the view of financial economy, I wonder that all our bottle-feeding farmers, and even their amateur supporters, do not see the bad results which the present method brings to them. Why do they not see that the compulsory gluts in the dead meat markets, which so often take place in our import cities, vibrate to the remotest cattle-feeding farm, and lower the price to the home feeder? A steady, plentiful supply will keep prices from getting high, but it is the gluts which enable the middlemen to keep them at the low level which specially affects our home cattle-feeding farmers.

Our farmers and butchers can also complain of the extreme rigour with which over-zealous policemen and incompetent inspectors too frequently seize and condemn unjustly home-fed carcases, while foreign carcases are passed which may have been more defective, only they are fatter and have no internal organs to tell any tales.

I was very pleased to see that the Royal College of Veterinary Surgeons had decided to support, to some extent, the British Institute of Preventive Medicine. I think they should have gone further and obtained more benefits from the funds in our own day. I hope all our veterinary associations will practically follow this useful example. There is much necessary investigation requiring to be done, and we all know that most investigations, to be reliable, must be conducted under such exact scientific methods and management as cannot be obtained by ordinary practitioners, who cannot get, nor afford to give, the time, &c., required. It is only at some experimental institute, or well-equipped laboratory, that some investigations can be successfully performed—at least, in regard to certain stages of the problem. I think our agricultural periodicals might increase their usefulness very much by aiding this subject in various ways; such as giving knowledge and advice regarding the injury to horses, and loss in various ways, which is sustained by farmers allowing their hay crop to ripen too much before it is cut and harvested; or the greatly-increased death-rate among sheep (as well as other monetary loss), which frequently takes place when turnips are eaten on the ground, as compared with being cut and eaten in boxes. They might also more frequently draw attention to various aspects of preventive veterinary medicine and management which have been fully solved, and only require application. I am sure, if the owners of animals were to co-operate more fully than they do at present with the veterinary surgeon, there would be a very positive gain to the animal world. If there is any aspect in life to which the old proverbs, "A stitch in time saves nine," and "Prevention is better than cure," are specially applicable, it is in regard to the earliest possible means being taken to remove obstacles, or to tender the means which nature requires to preserve or restore the animal body to the fullest possible degree of health and vigour. I am sure there are many occasions on which the veterinary surgeon could render very valuable aid, not only by early attendance, if requested, but also in observing and pointing out the bad or defective conditions to which animals are often subjected. In recent years, I believe, there is a very considerable increase—an increase which should be continued and extended—in the number and variety of animals insured in animal insurance companies and in mutual benefit cow clubs, and I consider one prominent advantage which these institutions confer on all concerned, is the great benefit which results from their rules requiring prompt veterinary attendance. In regard to parturient apoplexy, we also find that preventive medicine and management is of the greatest possible advantage. Distemper in well-bred dogs often causes much loss, and inoculation or other preventive measures deserve more attention at our hands.

Anthrax.—I need not allude to preventive measures in connection with

anthrax, seeing we are to have a special discussion on Mr. H. Thompson's paper, which I hope will be a vigorous one.

Another very important subject belonging to this class is abortion in cows. I understand that a great advance and success have been obtained by an able member of the profession in the west, whom we are always very pleased to see amongst us. I am sure we hope to hear soon that perfect success has crowned his efforts, and that he will receive the reward which such labours deserve.

There are a number of other similar and important diseases which might be alluded to, giving abundant scope not only for veterinary genius in large institutions, but also for a great amount of hard ordinary labour and investigation on the part of every active member. Perhaps some may say that the amount of veterinary advice and instruction which has been and is being given by County Council lecturers will soon leave very little for us to do. I am not of that opinion. I expect much of that knowledge will go the same as the gains of those who are in special haste to be rich. If they would urge preventive treatment on the lines I have stated, I think they would do good all round. Another form of cheap, popular, veterinary instruction is articles by veterinary surgeons in agricultural almanacs and year books. I read an article of this sort recently and found it still true, "Fools rush in where angels fear to tread," and the natural consequences must follow.

A more important point is our remuneration for services rendered. I hold we have as good a claim on agriculture and the animal world as the landlord, tenant, labourer, or tradesman. But if we are to have a liberal reward for our services, we must give able, interested, hearty services, both as individuals and as a professional body, both locally and nationally. Judged by that standard, I am sure we can leave our case in the hands of any jury. Just look at the medical—every parish or union of parishes has a public medical officer of health and a special, consulting one for the whole county, all receiving very considerable sums of public or national money for attending to preventive means and management for securing the good health of the public, while we are treated as being incapable or undeserving of being employed to inspect even our dairy cows. The question of veterinary remuneration was once gone into by that somnolent veterinary association in the north of Scotland. They formulated a scale of charges which were printed, and copies supplied to every member. I think on some occasion we might devote a little time to the same with benefit, and have a general understanding as to what is a reasonable charge for visiting at certain distances, the charge for performing certain operations, what would be a medium average charge for veterinary attendance per pair of farm or town horses for a year, etc. Though only approximate, and not very strictly adhered to, it would form a good basis for the young practitioner, give a desirable degree of equality in charges, and would be handy to curb a grumbler with.

Recently I observed with pleasure that more amicable relations exist between the S.P.C.A. and the veterinary profession in Edinburgh. I have always been of opinion that if the society's officers would show a little less self-conceit, and consult the members of the veterinary profession generally a little more before issuing summonses, that they would find the members of the veterinary profession to be their most ardent supporters in all needful cases. There are two forms of cruelty to which I desire to draw the energetic action of ourselves, the society, and police. First, no doubt many horses are whole in skin surface, but they are compelled to draw loads the weight of which is quite beyond their strength, and, what is even worse and more frequent, is the rate of speed at which these poor old stiff animals are compelled to do their work. I consider the way they are treated is really cruel. Secondly, in winter, when we have frost and slippery roads, we have a form

of cruelty which should be combated, viz., working horses without being roughed. The slipping, and straining, and falling is really cruel. The perfection of simplicity and efficiency which has been arrived at in moveable frost-cogs, and other methods of roughing horses' shoes, leaves every owner of horses without excuse. I hope soon to see someone made an example of.

Some years ago, when the New Veterinary College was at its best in regard to number of students, and in every other respect flourishing, I was much impressed with remarks then made by Principal Williams, that there should only be one veterinary college in Edinburgh. Doubtless Professor Williams, with his superior powers of observation, then saw that special, and even general, circumstances which may arise and become developed, may also soon decline and become extinct, and, therefore, no good reason could then be adduced for the continuance of two similar institutions if all the best powers of both could be combined in one. If it is possible to do so, I am sure the profession will now be as unanimous in favour of union as they were in support of Professor Williams when he founded the New Veterinary College.

Last year I made a suggestion to the National Veterinary Association, and at that time purposed repeating it here, viz., I believe there are many veterinary surgeons who have veterinary instruments and appliances of their own designing, and which are of greater practical value, and often much cheaper and simpler, than those we find in our catalogues of veterinary instruments. Therefore, I would suggest that every veterinary surgeon should bring to our meetings any instrument or appliance he has found really useful. I am sure no one would grudge a good royalty on anything really valuable, and it would then be a benefit to the inventor also.

There are other subjects which require our attention, but an annual meeting gives every member the opportunity of bringing forward any subject to our notice, and I hope you will freely assist and supply what I have omitted.

Gentlemen, if I have said or indicated anything which is not sound doctrine, or have spoken unadvisedly in any way, then I do hope you will, everyone, speak out and prevent any of my isolated ideas from bringing any reproach on our association and profession.

Mr. R. Rutherford, F.R.C.V.S., Edinburgh, said: It is not usual to discuss the President's address at these annual meetings, and I beg therefore to congratulate Mr. Cameron on his splendid address, and on the many points of great interest which he has brought forward, and all of which when published will receive our due consideration.

Election of New Members.

Mr. W. R. Davis, Edinburgh, and Mr. Walter Grey, Leith, who were nominated at the last meeting, were then unanimously admitted to the membership of the Society.

Votes of Condolence.

Mr. Rutherford moved that a letter of condolence be sent to the friends of the late Professor Walley and Professor Lewis. As they were aware, he was for a long time at daggers drawn with Professor Walley. They had been friends for a long time, but they gradually got into an antagonistic attitude on professional matters. Notwithstanding this, he never lost his regard for Professor Walley as a man and as a veterinarian. As a teacher, no man was ever likely to possess more of the confidence and love of his students, not only for the work he performed for them, but for the care he showed in their interests in every respect. He was glad to say that within the last two or three years the hatchet was buried between them, and they had smoked the pipe of peace at each other's firesides. At the time of his death they were as good friends as could be. With regard to Professor Lewis, he stated that

that gentleman spent his summer holidays at Callander with his (Mr. Rutherford's) family last year, and none of them saw the least sign of anything being wrong then. Though he died by his own hand he was sure that they all sympathised in his untimely end and for the distress of his poor sisters.

Mr. HARRY T. THOMPSON, Aspatria, seconded the motion, which was cordially agreed to.

Employment of Laymen in the Veterinary Department of the Board of Agriculture.

Mr. PETER MOIR, hon. secretary, read the following letter, which had been received from the Central Veterinary Medical Society, London:—

February 16th, 1895.

Re The Employment of Laymen in the Veterinary Department of the Board of Agriculture.

"MY DEAR SIR,—At a meeting of the Central Veterinary Medical Society held on the 7th instant, the above subject was discussed, and a committee was appointed to consider the best means of bringing the views of the profession on this subject to the notice of the Minister of Agriculture. The committee has met and has forwarded a memorial to the President and the Council of the Royal College of Veterinary Surgeons, a copy of which is enclosed."

To the President and Council of the Royal College of Veterinary Surgeons.

"The Central Veterinary Medical Society, which numbers upwards of 140 members of the profession, is of opinion, that some united action should be taken in connection with the appointment to the Board of Agriculture of laymen, to positions in the Veterinary Department of the Board, more especially as it is now rumoured that a layman is about to be appointed as its head, and this Society respectfully asks the President and Council of the Royal College of Veterinary Surgeons to send a deputation, or take some other decisive action, to bring the feeling to the notice of the Minister of Agriculture of the profession, that only veterinary surgeons should be appointed to such positions. It is felt that, however capable a layman might be, a veterinary surgeon should occupy the position of director or principal of the Veterinary Department of the Board, both for the effectual carrying out of the Contagious Diseases Animals Act, and the prestige of the profession. It is also felt that more responsibility should be placed upon the local authorities and their inspectors. The Central Veterinary Medical Society has forwarded a copy of this communication to the president and honorary secretaries of the various Veterinary Medical Associations for their co-operation and support."

"May I on behalf of the Central Veterinary Medical Society ask you to bring the matter before your Association, so that the Council of the Royal College of Veterinary Surgeons may be supported in any action which they may deem necessary. Will you also ask your members to use their influence with Members of Parliament and influential agriculturists in this matter, with a view to its early representation in the House of Commons. The Council of the Royal College of Veterinary Surgeons will, I am informed, meet during the first week of March, so that it is important that any action you may take may be communicated to them before that date.—I am, my dear Sir, yours faithfully, F. G. MAHON, *Hon. Sec.*"

P. MOIR, Esq., M.R.C.V.S.,
Hon. Sec., Scottish Metropolitan Veterinary Medical Society.

Mr. RUTHERFORD said that the placing of a layman at the head of the Veterinary Department, or, rather, of its executive, was a piece of the greatest jobbery he had ever heard of. He had some knowledge of the working of the Department during the time that this country was stamping out pleuro-pneumonia by slaughter, instead of other methods, and, in spite of a certain amount of antagonism, one could nevertheless admire the methods adopted by the Government for carrying out the purpose they had in view. At that time, however, the Department was headed by one of the most distinguished

official veterinarians in the country, Professor Brown, and the two gentlemen on his staff were men of the greatest experience. Since Professor Brown's retirement there had been no progressive movement forward of either of these gentlemen, but the person who occupied the position of chief travelling inspector in the old days had been quietly shunted into his place. Hence, they saw the travesty and the great joke of a civilian board trying to stamp out pig disease, for instance, without any reference to the veterinary profession. He did not know much about pig disease, and it was a disagreeable subject, but it existed and had to be tackled with, because it had caused immense loss to the agriculturists in this country. He advised the members of the profession to boycott any communications from the Agricultural Department until a veterinarian was placed at the head of the Department. He moved that they write to the Central Society, stating that they were prepared to give them the utmost support, and that they thought the method of approaching the Royal College was the correct one. They must really get those gentry in Whitehall Place brought to their senses.

Mr. CLARK, Coupar Angus, in seconding the motion, said that while Professor Brown was at the head of the Department, he admired him as a veterinary surgeon, although he was not able to coincide or agree with him in all respects. He gave an instance of what had happened in Perthshire shortly after Professor Brown's retirement. He was the oldest of the inspectors in Perthshire, and, to his utter surprise and astonishment, he got, one day, the most senseless and impertinent letter that was ever received by any servant who had tried to do his level best for those he served. The tenour of the letter was to the effect that the Local Authority of Perthshire had had under consideration the management of Diseases under the Contagious Diseases Act, and, by the advice of the Board of Agriculture, they begged to dispose of the services of their inspectors. The work had now been practically handed over to the gentlemen in blue. At the end of the letter was an extremely senseless statement that, although they had taken this course, they hoped their late veterinary inspectors would do all in their power to assist the Local Authority and the Government in putting down disease. Not a word, however, was said about honorarium or anything else. He had the good luck to see a member of Parliament about a week afterwards, and, on showing him the letter, that gentleman said he had a good grievance. As an instance of what had resulted, he mentioned that an outbreak of anthrax had taken place in Perthshire. The owner sent information to the veterinary inspector, but he very properly pointed out that he had been deposed from office, and he refused to have anything to do with the case, telling the owner to go to the constable. On being approached, the constable was paralysed, and begged the cattleman and the farmer to bury the animal. They said they would do nothing of the kind, and the animal actually lay for three or four days unburied. An Act of Parliament gave specific instructions for certain duties to be performed, and yet this was the way in which they were performed.

The meeting expressed hearty concurrence in the proposal of the Central Society, and agreed to join with any deputation from the Royal College for the purpose of having their grievance redressed.

Discussion on Anthrax.

Consideration was then given to Mr. H. Thompson's paper on anthrax, the discussion upon which had been adjourned from a previous meeting.

Mr. CLARK, Coupar Angus, in opening the discussion, said he had not exactly made out what Mr. Thompson meant in his pamphlet, because he had begun with one thing and finished up with quite another. If Mr. Thompson meant or inferred that anthrax was due to spontaneous generation, then he

did not believe him at all. If he said that it was contracted without the bacilli of anthrax, and was brought into play by the food alone, then he did not agree with him. Mr. Thompson had given them a lot of valuable original matter, but so far as his experience led him to speak on the matter, he could not confirm Mr. Thompson's finding. His reason for saying so was that if Mr. Thompson's contention was a sound one, they would have a great many more cases of anthrax. Mr. Thompson inferred that anthrax might be brought about by certain foods in a state of fermentation. Now he (Mr. Clark) did not question for one moment that such food might be the means of bringing matters to a crisis, but he most distinctly questioned that it was the original cause. They all knew that the weak and the strong, the young and the old, were alike subject to attacks of anthrax, and that it was due entirely to the bacilli of anthrax, and had its origin in the same way that by sowing oats they reaped oats, and by sowing wheat they got wheat. If it was due to food in a state of fermentation, the extreme probability was that there would be a great many more cases. Strange to say, however, his experience had been the very opposite. He had had extremely few cases arising through the medium of prepared food. Most of his cases had occurred among stall-fed cattle, or where they had been fed on turnips, and straw, and cotton-cake. He did not assume for one moment that the anthrax was due to the cotton-cake. No doubt, it was a coincidence, but how the coincidence came about he was not prepared to say. Mr. Thompson had referred to a number of cases of disease simulating anthrax. He (Mr. Clark) could very well remember a number of years ago how young animals that were being fed upon turnips, and straw, and cotton-cake, were brought down from the effects of the food, and not from the bacilli of anthrax. It was a well-known fact that decorticated cotton-cake was very fatal indeed. Animals died suddenly from its effects. There was an engorged condition of the spleen, but, strange to say, the diagnostic symptoms were wanting in the cases which had come under his notice. The diagnosis went very far to prove that the disease was not conveyed by means of inoculation. He submitted some of the lesions to Professor Williams, and he agreed with him in saying that it was not a case of anthrax. His diagnosis was that the animals died from the effects of eating the decorticated cotton-cake, and was not due to anthrax. Professor Williams was of the same opinion, that it was a morbid condition of the blood, brought about by too generous feeding with this particular food. He had also seen cattle fed with turnips, and straw, and water, and the same lesions had taken place, not, certainly, with engorgement of the spleen, but with apoplexy of the bowels. Everything pointed conclusively to the fact that the disease was not due to the bacilli of anthrax at all. He therefore hoped that Mr. Thompson would differentiate between the true and the simulated cases. He thought that with the microscope, and by means of inoculation, they could very soon find out whether a case was really a true case of anthrax or not.

Mr. McLuachlan Young, Dundee, said Mr. Thompson had cast a serious slur on the profession when he said that they could only take the bacilli of the various diseases and treat them like planting the seeds of potatoes. He thought Mr. Thompson had taken rather a serious step when he said that they had to sow the bacilli before they knew what the result would be. They of the New School who had had the honour of being taught by Principal Williams and his son knew better than that. They did not require to inoculate the bacillus before they knew what the result would be. He thought Mr. Clark had hit the keystone when he said that the microscope was the only means of differentiating what might be called true anthrax from diseases which simulated it. Anthrax was a specific disease, and although there might be other diseases which simulated it so far as some few symptoms were

concerned, it was not anthrax unless they had bacilli in the blood. He was certainly at one with Mr. Clark when he said that no amount of fermentation would germinate anthrax. They must have the disease before they could have it propagated.

Mr. ANDREW HUTCHESON, vice-chairman of Perthshire County Council, said the question of compensation for anthrax was on a most unsatisfactory footing. Regarding Mr. Clark's statement about the police in Perthshire, he said it was impossible that the police were to take the place of the veterinary inspectors. He understood that all the police were to do was to send notice at once to the local authority, and a veterinary surgeon was then employed. In the interval the police could place an embargo upon the removal of the cattle until the veterinary surgeon arrived. What they found was that the local authority sometimes sent an inspector, and the Board of Agriculture sent another inspector to the same place from quite a different district, and this caused a great amount of heart-burning to the inspector of the district proper. It was not to be thought, however, that the police were to supersede the veterinary inspectors. He knew that a great many gentlemen had been sent into Mr. Clark's district to do work which should have fallen to him.

Mr. CLARK said the whole question arose through the Board of Agriculture taking the matter out of the hands of the local authority. He was isolated in an agricultural district, and Coupar Angus was not very well known by the authorities in London. When they got word of swine fever in his district they sent a telegram to Dundee or Perth or some other large centre, and the consequence was that a veterinary surgeon was employed to go 15 or 20 miles out of his province, whereas the local inspector could easily have been employed. The loss of the money was not the main point. It was not easy to understand why men should be sent from big towns such as Dundee and Forfar, and it left an impression on the farmers that the local inspector had either done something to cause irritation to the Board of Agriculture or that they had not sufficient confidence in him. If a competent veterinarian were on the Board of Agriculture he was quite sure that this grievance would be redressed.

The CHAIRMAN said that when anthrax broke out among a lot of cattle, a number died, but a question that had been overlooked was, What steps should be taken to put those animals which remained, and were also affected, into a thoroughly healthy condition, and how long could they remain affected by it? It was very necessary that they should treat those which remained to a greater extent, perhaps, than farmers would be inclined to believe.

Mr. RUTHERFORD said that if ever there was a paper calculated to upset a man, it was the paper written by Mr. Thompson. He declared boldly that if ever there was a disease which had been well established, it was that of anthrax. For the last ten or fifteen years not only the journals of this country, but the journals of the Continent of Europe, had been sufficiently pronounced on the subject that anthrax was due to *bacillus anthrasis*, and that there was no such thing as spontaneous anthrax. What about woolsorters' disease, and other diseases which men got by being accidentally inoculated by handling the wool? Those people died, swarming with the bacilli, through accidental inoculation.

Mr. DURKIE, Dundee, said that Mr. Thompson had given them a paper which had mystified them very much. For his own part, he did not believe in animals being poisoned by fermentation, or he would not be there to speak at that moment, because he had drunk the product of fermentation for some time. With his little experience in cattle feeding he had succeeded in feeding them better with fermented food than he had done with food in its natural condition.

Mr. THOMPSON, in replying to the discussion, said it would take, not only all

the microscopists, but all the practical men, to disabuse his mind of his contention that in several cases which had come under his notice, anthrax was due to the fermentative process in the food supplied to the animals. He reiterated some of the cases mentioned in his paper, and stated that after a change of diet the disease disappeared, thus showing that it was due to the food. He also confuted the argument that the disease was due to inoculation by stating that some of the gentlemen who assisted him in making *post-mortem* examinations of the cases cut their fingers, but they did not have anthrax. The strangest thing was that a rabbit was inoculated with the blood, but it did not die. Certainly, if bacilli got into the blood it would be contagious, but what about the statement of Professor McFadyean, who had reckoned that during 1894 there were only two cases at each outbreak. At Wigtown, just before Christmas, there was a case of anthrax. There was no case in that place ever known before, so where did the infection come from? It was said that the bacilli did not invade the body until about an hour or so before death, and that the bacilli, in order to generate, required to have a free access of oxygen. Now, when an animal was dying, and was blowing pretty quickly with its lungs, which would become blocked up with congested blood, where was the bacilli to get the oxygen for the anthrax to grow?

The CHAIRMAN said he did not think there was anything that Mr. Thompson need be discouraged about. If they looked at the medical profession they would find that there was much that required yet to be solved.

Mr. CLARK moved a vote of thanks to Mr. Thompson for his paper which, he said, was well worth a great deal of thought.

Mr. MOIR, in seconding, said he admired Mr. Thompson's courage very much, for he had the courage of his convictions. He had faced the Society three times, and all the members had enjoyed his paper and the discussion upon it.

The vote of thanks was given with much cordiality.

The Summer Meeting.

Mr. MCLAUCHLAN YOUNG moved that the summer meeting be held at Berwick-on-Tweed. They had a large number of societies in the north of England, and if they had a meeting as far south as Berwick-on-Tweed, they would have great support from these societies. It would not only be a great benefit to them, but a fitting compliment to their new president to have their summer meeting in Berwick.

Mr. THOMPSON seconded, and the proposal was unanimously adopted.

The Annual Dinner.

After the meeting the members present dined together in the hotel. Mr. Cameron, the president, being in the chair, and Mr. Peter Moir, the honorary secretary, acting as croupier.

The usual loyal and patriotic toasts were proposed from the chair, and pledged with enthusiasm. Mr. McLuachlan Young, Dundee, replied for "The Army, Navy, and Reserve Forces."

Mr. ANDREW HUTCHESON proposed "The Royal College of Veterinary Surgeons." In doing so, he referred to a speech which he said Mr. Clement Stephenson had made at Perth the previous evening. After that speech he was losing faith in the veterinary profession as a profession altogether. It would seem that there was no use of young men entering the profession at all, because, according to Mr. Clement Stephenson, the cure for all contagious diseases was the wholesale use of the pole-axe. He did not know what those present might feel, but he would think very little of the veterinary profession, supposing he was a member of it, if all they could do was to knock a beast on the head. To his mind, the much better way was to try and

discover a cure for the disease, whatever it might be. In regard to the question of so-called Canadian pleuro, Mr. Clement Stephenson, he noticed, had taken credit to himself for having helped to put an end to the Canadian cattle trade, but he had not mentioned that by doing so he had assisted, too, in killing the possibility of any one engaged in farming making a profit in this one particular branch of their business. The pole-axe business, they would agree with him, was rather an absurdity, and although he knew that in certain cases they should slaughter in order to confine the disease, he held strongly that the profession ought to try and find out a cure for the diseases in question. There was no use for a veterinary surgeon if all he had to do was to knock a beast on the head. That was the work of a butcher, and not the work of a veterinary surgeon. Mr. Clement Stephenson also said that he saw the Toronto lung that so much had been said about. He was taken to the Board of Agriculture, and the moment he saw it he declared it was genuine pleuro-pneumonia. He (Mr. Hutcheson) did not think any veterinary surgeon could do that; one would require to examine it very carefully. He for one would never believe that the Canadian cattle that came into this country had contagious pleuro-pneumonia, unless it was proved to his satisfaction by inoculation or cohabitation with healthy stock, instead of merely going and looking at a lung.

Professor Owen Williams, in responding to the toast, assured the company that the members of the Council of the Royal College were doing their best to elevate the profession. Many matters of vast importance had been brought under the notice of the last meeting of the Council. The Council had come to be of the mind that they would not permit advertising, as if the members of the profession were quacks, and steps would be taken to put that practice down. The Council expressly desired that veterinary societies should bring any grievances that were within their knowledge under the notice of the Council, and they trusted that this would be done. For instance, a chemist in the North of England had a veterinary surgeon's name on his blind. It would have been difficult for members of Council, none of whom lived within many miles of the place, to have learned about the matter if it had not been for some enthusiastic member of the profession, who reported it.

Mr. Young, *North British Agriculturist*, proposed "The Society,' and spoke of the dangers to the public which the existence of tuberculosis in cattle, and especially in cows, entailed, and urged that as it was considered necessary that the flesh of cattle affected by the disease should be condemned as unfit for human food, so also was it absolutely necessary, in the interests of the public health, that the milk of cows suffering from tuberculosis should not be used for human consumption.

The Chairman briefly responded to the toast.

Dr. Campbell, Edinburgh, in proposing "The Veterinary Profession," said he thought the veterinary profession, in all civilised and cultivated communities, ought to hold a high and honourable position. He thought there were two grounds for such an assumption. In the first place, he took the material ground. They had to deal with the flocks and herds of the country. Although he was not a statistician, he would say that the wealth of this country, as expressed in its flocks and herds, must be very considerable. There was also a great intellectual and ethical question involved in the veterinary profession. It had been well said by a witty Frenchman that "The lower animals are our poor relations," and it seemed to him that there was a great deal of valuable philosophy in that statement. He remembered being very much struck, on seeing the skeleton of an ox, with the fact that, after all, it was very much the same as the human skeleton. He could quite understand, therefore, how anyone beginning to study under Professor Williams, or any of the other great teachers of comparative anatomy, must be

led on gradually from point to point until he became perfectly absorbed, and enchanted, and fascinated by the discoveries he made, and how he must realise gradually the fact that there was one plan used by the Creator, and that in studying His works they were following in His footsteps. He impressed upon the veterinary profession to work hard and do their work thoroughly and conscientiously, and they might depend upon it that it would pay in the end.

Mr. H. T. THOMPSON, in replying, said theirs was a noble profession, but at the same time they had differences of opinion among themselves.

Other toasts followed, and a most pleasant evening was spent.

PETER MOIR, *Hon. Sec.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

THE usual monthly meeting of this Society was held at the Royal College of Veterinary Surgeons, 10, Red Lion Square, Bloomsbury, on Thursday, the 3rd inst., Mr. Sidney Villar, the president, occupying the chair. The other Fellows present were Messrs. N. Almond, Vet.-Capt. R. Butler, Ulysses Carr, C. H. Cordy, J. A. W. Dollar, C. R. Edmunds, H. Edgar, A. E. Gostling, Vet.-Major B. Glover, T. C. Garry, Prof. F. Hobday, J. Sutcliffe Hurndall, W. Hunting, F. C. Mahon (*Hon. Secretary*), Prof. Macqueen, Joseph H. Manton, W. J. Mulvey, Prof. Penberthy, A. Prudames, W. Roots, J. Rowe (*Hon. Treasurer*), G. Reddish, F. Samson, W. Stapley, W. H. Williamson; and as visitors, Morgan Evans, W. H. Mulvey, Junr., E. R. Sherren, and W. E. Taylor.

On the motion of Mr. PRUDAMES, seconded by Mr. H. EDGAR, the minutes of the preceding meeting were taken as read, and were confirmed.

The HON. SECRETARY read communications which he had received from gentlemen who were unable to attend, including Major Longhurst, of Aldershot, Mr. J. Roalfe Cox, and Mr. H. M. Singleton.

The Veterinary Profession and Insurance Companies.

The HON. SECRETARY read the circular letter from the Secretary of the Eastern Counties Veterinary Medical Society and the resolution passed by the Society.

The CHAIRMAN: It seems to me that this letter is of some importance. The question of the fees which the insurance companies pay has lately given rise to a good deal of discussion. I should like to hear any remarks which gentlemen may care to make on the subject.

Mr. PRUDAMES thought that this letter should be acknowledged. A similar communication had, he thought, been addressed to other veterinary medical societies. Personally he had no knowledge of the amount of the fees paid by insurance societies.

Mr. HURNDALL: Is this the first time that this Society has received a communication from Mr. Shipley?

The CHAIRMAN: The first time we have had a communication from that gentleman with regard to insurance fees.

Mr. HURNDALL: I thought that the matter had been under discussion before. The Royal Counties Society had under their consideration a like letter addressed to them in June last. The matter is one which, speaking personally, I do think deserves our co-operation. My own view is that we should forward a resolution to the Eastern Counties Society expressive of our sympathy and agreement with the sentiments stated in the motion. I do not know that we can do more—or that we should do less—than that. If the meeting is disposed to convey a resolution to that effect, I shall be prepared to propose it.

Mr. H. EDGAR said that he should be glad to second the motion. He had had, he said, considerable experience of insurance companies, and he must own that their fees were simply absurd. They were so small that he had repeatedly declined to examine when requested by insurance companies to do so. When a veterinary surgeon was asked to go five or six miles to examine a case, and was offered a paltry fee of half-a-crown for his trouble and for assuming the responsibility of giving an opinion as to whether the animal was sound or unsound, he thought that words failed to express the view that self-respecting veterinarians should hold on such a subject. On the other hand, it might be said that the premiums were so low that they would not admit of a higher fee ; but the premiums might be increased in order that the examination should be thorough and complete, and satisfactory alike to the insurer and the insured. He felt strongly that no fee of less than 5s. should be accepted, unless, indeed, there were many animals to be examined at one and the same farm, in which case a reduction might be made.

Mr. ROWE said he cordially endorsed all that Mr. Edgar had stated. He had been connected with the Accident Insurance Company for over fifteen years, and he had never received more than five shillings per case. In fact, the only time he had received five shillings was once when he declined to walk to Highgate for less. The companies alleged that they could not give more because the premiums payable were so limited; but surely the companies might make the cost of the examination a special charge on the part of the intending insurer.

Mr. PRUDAMES said he knew that in some cases already, where there was only one animal to be insured, it was a condition that the insurer should pay the veterinary surgeon's fee. He believed that the only way out of the difficulty was for a slight addition to be made to the premiums payable, to cover the cost of the examination. He had had some considerable experience in connection with a mutual insurance society, and he knew that the fees were put so comparatively low in order to enable one company to compete with another. He quite agreed with Mr. Rowe that the examination fee should be paid by the person affecting an insurance, and not by the company. He felt that this was the only way out of the difficulty. He should be pleased to second Mr. Hurndall's motion.

Mr. N. ALMOND said that he held at the present time a letter from an insurance society for which he acted, absolving him from all personal responsibility. In the form sent out he was asked not only to examine the horse in question on which it was intended to effect an insurance, but other horses as well. In those circumstances, he invariably assumed no responsibility whatever, the business simply falling in with the ordinary routine of his daily work. Having regard to the smallness of the fees payable, he thought it was inconsistent to ask veterinary surgeons to assume responsibility.

Mr. HURNDALL said that when he first settled at Blackheath, he found that his predecessor was the recognised representative of one of these insurance companies, and he was requested by the company to go to Rotherhithe, five miles distant from Blackheath, to examine a horse, and also stables and other premises, and certify as to the sanitary condition of the place and the fitness of the horse as a subject for insurance. Well, he went to Rotherhithe, and, in his innocence, he charged a guinea as his fee, a sum which he considered to be a moderate one. His account was ignored for twelve months, the company not intimating that his (Mr. Hurndall's) predecessor had an agreement with them to do the work for 3s. 6d. He put the matter into the hands of his solicitor, and the case was entered in one of the City of London courts. The presiding judge expressed sympathy with him (Mr. Hurndall), and expressed regret that he was unable to give him a verdict. Some technical point was involved, which prevented his doing so, but he spoke strongly on

the subject of offering such ridiculous fees for work done. Mr. Prudames and other gentlemen had remarked that the companies could not afford to pay higher and more suitable fees to the members of the veterinary profession. It might be that the companies received little upon the first premium, but persons acquainted with life-insurance business know full well that the life insurance offices could afford to expend even more than the first year's premium in order to get business. If a life-office could afford to do this, surely a society which insured horses, etc., could do so, seeing that the rates they charged were far higher, considering the risks they took, than were those required by life-offices in regard to human beings. If the companies saw fit to make provision for charging their clients a suitable remuneration for the veterinary surgeon's services, well and good, but he did not think that that had anything to do with them. Their concern was simply to see that they were properly paid for the work they did. He moved: "That the Central Veterinary Medical Society acknowledge the receipt of the resolution of the Eastern Counties Veterinary Medical Society respecting the fees paid by insurance companies to veterinary surgeons, and hereby expresses its sympathy with and approval of the sentiments contained in the resolution forwarded for their consideration."

Mr. H. EDGAR seconded the motion, which was carried unanimously.

The National Veterinary Benevolent and Mutual Defence Society.

The SECRETARY read the subjoined letter which he had received from the Secretary of that Society:—

"Grosvenor Street, Oxford Street, Manchester,
"*December 10th*, 1894.

"DEAR SIR,—

"Your letter of February 8th in regard to the above Society was read and discussed at the annual meeting on Thursday last. The members present were unanimous that no alteration as suggested by your Society was necessary, there not being sufficient grounds for the change.

"I remain, yours very truly,
"SAMUEL LOCKE, *Hon. Sec.*"

[The proposed alteration, it may be remembered, was that the benevolent and defence funds of the Society should be kept separate, and that members of the profession should have the option of subscribing either to the benevolent objects or the defence purposes of the organisation, or to both, as they might elect.]

Mr. H. EDGAR: I think that the letter from Mr. Locke which we have just heard read is of too much importance for us to allow it to be passed over without discussion. Having regard, however, to the considerable amount of business that lies before us, I propose that we defer the consideration of this communication to our next meeting. Twelve months ago we asked the question whether the Society would allow the benevolent and defence purposes of the Society to be dissevered, and it is requisite that we should think the matter over again.

Mr. HURNDALL, in seconding the motion, said that he should not have done so, but for the fact that it was somewhat at his instance that they approached the Manchester people with a view of enquiring whether the basis of their Society could not be broadened and whether more liberal arrangements could not be made. We suggested (added Mr. Hurndall), if I remember rightly, that the two departments might be separated and conducted on separate lines, because it was thought that the money from one source should not go to the support of another object. I quite agree with Mr. Edgar that the matter is too serious to be passed over lightly, especially as our business

to-night is rather heavy. I certainly think that the National Veterinary Benevolent and Mutual Defence Society has treated us with anything but courtesy, and I should like Mr. Locke to be told of this in some way or other. To allow eleven months to pass by without noticing our letter is, I think, a little beyond a joke.

The motion was then carried unanimously.

The Late Professor Walley.

The CHAIRMAN: Since our last meeting this Society has lost by death one of the most distinguished of its Fellows. The late Professor Walley had, for a long time—considering the distance he lived from London—been quite an active member of this Society. He was frequently in correspondence with our secretaries on the current topics of our Society, and he read papers and took part in our discussions on several occasions. Several years ago he was elected an honorary member of this Society. Not only have we cause to mourn the loss of Professor Walley as a member of this Society, but also as a distinguished member of our profession. Few men worked harder or have done more for the profession than he. I am sure it is the wish of this Society that we should send an expression of our sympathy with the friends of the deceased professor in the bereavement they have sustained. I move, therefore, "That our Secretary convey to Mrs. Walley and family the expression of our sincere sympathy with them in their sad bereavement."

Mr. ROWE, in seconding the motion, told how, more than thirty years ago, when his father was one of the examiners of essays at the Camden Town School, he brought home with him an essay by one of the pupils, and bade him read it, adding, "The author of that essay will make his mark in the world." The writer of the essay was Professor Walley, and his (Mr. Rowe's father's) forecast had been fully justified. The subject of the essay was pleuro-pneumonia, and it was written in 1864, four years before he (Mr. Rowe) entered the College himself. Twelve months ago, while seated at dinner with Professor Walley, the talk turned on pleuro-pneumonia, and then he mentioned to him that he had this old essay of his. Meanwhile the Professor had wondered what had become of it. He took it back to read, and then returned it to him with a kind note, which he (Mr. Rowe) should ever treasure.

The motion was adopted *nem. con.*

New Honorary Fellows.

The CHAIRMAN: The Council unanimously decided to recommend the following gentlemen as hon. Fellows of this Society:—Colonel F. Duck, A.V.D., Captain F. Raymond, A.V.D., and Mr. H. G. Rogers, M.R.C.V.S., of Brompton Road. Colonel Duck, as they were aware, had been an active member of that Society for some years. The services to the Society of Captain Raymond were, also well known, as were also the services of the late hon. sec., Mr. H. G. Rogers.

A ballot resulted in the unanimous election of the three gentlemen named.

Nominations.

Mr. Robert Porch, M.R.C.V.S., 9, Grosvenor Road, S.W., was duly nominated as a Fellow of the Society by Messrs. Hunting, Macqueen, and Penberthy; and Mr. W. E. Taylor, M.R.C.V.S., of the same address, was similarly nominated by Messrs. Hunting, and J. A. W. Dollar, and Captain Butler.

Morbid Specimens.

Mr. H. EDGAR submitted for inspection two specimens showing injuries inflicted by foreign bodies—French nails—in the second stomach of cows.

In the first instance, he explained, the stomach was punctured, the nail was right through the stomach; and in the second case the nail was in the mucous membrane. In previous similar cases he had never known the animals exhibit such a class of symptoms as these two cows showed, and the course run so very rapid. In the first case he was called in at about half-past nine in the morning, and was informed that the cow was taken ill about four or five the previous evening. He found her lying on her side in a comatose condition. His diagnosis of the case was dysentery. She was wholly paralysed, with congestion of the brain; and it was only on the second day that his suspicions were aroused that a foreign body was present, and upon the animal being killed, he found the nail right through the whole of the stomach. The cow was got into a sitting position. After he saw her she recovered consciousness and sat up of her own accord. She drank several gallons of gruel. She seemed to be progressing favourably towards recovery, although there was a very slight action of the bowels and no water was passed by the cow except what he took from her. On the second day the cow relapsed, and her owner thought she was likely to die and preferred to have her killed. Mr. Edgar added that he understood that, when the cow was first brought in from grass and tied up in the usual way, she commenced striking out with her hind legs and plunging about the cow-shed. The second case was taken at eight o'clock one morning, and he saw the cow an hour afterwards. She was tied up in the shed and, after some time, was seized with similar symptoms to the other cow, as though mad. She kicked at her stomach tremendously, and finally, just before he saw her, she was down, and never recovered. She lingered until the following day. As he was convinced that there was a foreign body in the stomach, he performed rumenotomy with a view of finding it. There was one point where the animal exhibited great pain. At that point there was a fractured rib, and he could not distinguish whether the pain was due to the fractured rib or the pressing of a foreign body. When he performed rumenotomy, cutting into the stomach, he passed his hand and felt a fractured rib—an old-standing affair. He searched carefully for a foreign body, but he was unable to detect it, and concluded that it was quite possible it was covered with fat, and was thus beyond detection. The first cow, he said, had a temperature of 99°, which rose to the normal height until the cow's death. The temperature of the second animal was 101°, and when he performed the operation it went up to 104°. Half-an-hour after the operation the temperature fell to 103°.

The CHAIRMAN: We must all agree that these specimens which Mr. Edgar has kindly brought forward are very interesting. I should like to ask him one question in reference to the specimen where a nail is present puncturing the mucous membrane. Did he, on making a *post-mortem* examination, find marked symptoms of inflammation of the mucous membrane or muscular coat of that organ? The reason I ask him is because I have, on very many occasions, found a large quantity of foreign material in the reticulum of cattle which probably has given rise to no other inconvenience.

Mr. EDGAR: No, nothing at all. One curious point is that a nail lying in that position should produce such complete paralysis, arresting the whole action of the bowels.

The CHAIRMAN said that what struck him was, how to connect the presence of the nail with cerebral disturbance.

Professor PENBERTHY: I think these are most interesting specimens, and I am sure I for one should be extremely grateful to Mr. Edgar if he would suggest an explanation of the symptoms of paralysis. Did they arise as the result of this nail lying in the mucous membrane?

Mr. EDGAR: I simply speak to the facts. I find the cow with paralysis. I find her in the condition described. I find a natural pathological change in the

mucous membrane of the stomach. Therefore, I must leave it to pathologists to determine how the paralysis ensued.

Professor PENBERTHY: I appeal to Mr. Edgar as a pathologist.

Mr. HUNTING: I do not quite understand; where is the connection? Do you say there is any connection between the nail and the paralysis or suggest that there is anything more than a mere coincidence?

Mr. EDGAR: I suggest that the nail was the cause of the paralysis. In my mind there is not a doubt about it.

The discussion then dropped.

Veterinary-Captain R. C. BUTLER read a paper on

"THE LEGAL ASPECT OF SOUNDNESS."

In the remarks by which it is my privilege to introduce the subject for this evening's discussion I shall endeavour to analyse those factors which may enter into questions of soundness, when such are brought into a court of law, and although some of them have a much wider bearing than their relation to soundness, we must take them into consideration in order to get a broad view of the whole matter. It has been suggested to me that the subject is somewhat threadbare and that, so far as we have gone, all that we can know about it is common property—but I cannot hold that to be any reason why we should not occasionally, and with profit, review well-known facts and see if, by consideration and discussion, we may not be able to elicit some fresh opinion which will be for the general good.

The ideal position of the veterinary profession with respect to legal questions relating to soundness is that of professional adviser to the judicial authority, on whom such authority may rely for the explanation of the technical features and pathological details of the case under notice, and for an accurate summary of its professional aspect. Seldom, however, is this state of affairs realised, and it is more frequently the case that a mixed mass of diametrically opposed opinions, which by neutralizing each other may be valued at but little, is left for a judge to sift. It is possible to imagine a more satisfactory position for ourselves, but it is one which always must occur and in which we do not stand alone, but which happens daily in all other professions, and notably in the legal itself; and I am inclined to think that in our criticisms of such contradictory statements by our professional brethren we are sometimes apt to take too pessimistic a view of our own shortcomings.

This leads me to speak particularly of *evidence*, and under this heading the saying "so many men, so many opinions," finds ample justification. Let us first fix the object in view in the giving of professional evidence, and I take it that this may be defined as a simple statement of opinion after careful examination. I should wish to emphasise the words "careful" and "simple," and the necessity for so doing may be clearly made manifest by quoting from two recorded cases. In the first of these (Hall v. Rogerson, Newcastle Spring Assizes, 1847), a veterinary surgeon, witness as to the relative soundness of a horse's feet, stated that he had noticed a slight convexity of the sole, but thought the defendant justified in warranting the animal sound. Later, however, in cross-examination he admitted that "If he had taken the precaution to see the horse go it might have been different." In the second a professional witness, on observing "that there was a considerable laceration of the integument," was reminded by the judge that if he meant there was a wound he had better say so.

The question of conflicting opinions is the point, however, on which our principal interest regarding evidence naturally centres, and where such opinions are in opposition to general professional observation or knowledge, I do not conceal from myself the fact that all are not equally careful, accurate, or

skilful; that, to suppose an extreme case, the intent to deceive may enter the mind even of a veterinary surgeon, and that the dogmatic, self-opinionated expressions which some professional witnesses have occasionally arrogated to themselves are not calculated to increase the weight of their personal testimony or raise the general opinion of the scientific attainments of their profession. These are all hindrances to our testimony bearing that amount of moral weight which we would fain see it enjoy, and at present we labour under a still further difficulty in this matter, in that the opinions of certain who have had no scientific education are accepted in courts of law on points which can only be adequately appreciated by those who have undergone the rigorous ordeal of systematic training. Where, however, the duly-qualified veterinary practitioner alone is concerned, I am pleased to believe—and I think that consideration will lead others to the same conclusion—that there is observable in recent cases a tendency to the more careful balancing and mental weighing of fact and opinion, and it is only by this means, by increased effort of observation and thought, by increased application for the attainment of scientific knowledge, that our evidence will hold that position and give that weight which is its due. Differences, and particularly with regard to soundness, will always exist; it is natural; but where experience and care are combined —and by experience I do not mean living a long time—they will be fewer and slighter. From this point it is proper to pass to the consideration of those for and to whom our opinion is offered.

The judge is probably unacquainted with technical details regarding soundness, and is guided in his decision or in his direction to the jury, by evidence, the arguments of counsel, and previous judgments. Should the scientific opinions be in accord, his path is clear, but when they differ, or when counsel succeed in placing opposite constructions upon them, he is, like all others, likely to be influenced by the manner or method of a witness, and this affords an additional reason for our attention, simplicity, care, and conciseness. It must not escape us to note the power of the judge in influencing the law of the future, for the law is jealous of its rights—and in this we may see a lesson for ourselves—and will not easily overrule a decision once made by one of his professional brethren. Our evidence should, therefore, be up to date. At first sight it might seem preferable to have in the judicial chair on questions of soundness, one who was acquainted with the veterinary medical aspect of the subject, and so was in a position to more successfully analyse contending professional evidence, but, on consideration, I think we should find this a drawback, and would in the main prefer to submit even the most technical details to the judgment of one who had a wide experience of human nature rather than to the possessor of that little stock of special knowledge which is so proverbially dangerous.

In a limited sense these latter remarks can be applied to juries, but in a limited sense only, and I can conceive that, if the question of trial by jury were attacked, the decision of a question of soundness would present one of its weakest points. Such personal opinion is, however, possibly in error, for it is in direct disagreement with that of a learned judge, who has stated in the case of Lewis v. Peake (7 Faunt. 153. 11 Ad. & E. 926) "The soundness of a horse is a question peculiarly fit for the consideration of a jury, and the court will not set aside a verdict on account of the preponderance of evidence being the other way." The latter half of this sentence constitutes to my mind the danger. It is acknowledged that every Englishman knows, in his own estimation, something of horses, and I think it may be generally conceded that the less knowledge he actually possesses the more intolerant is he of the opinions of those who in this respect occupy a higher level; and, consequently, I should prefer to submit scientific evidence to the judgment of one well-educated person, with a broad experience of men and matters, rather

than to a number who, however unbiassed and honest, are not so well qualified mentally.

Counsel in all cases, particularly questions regarding soundness, have an immense advantage in the examination of hostile witnesses, and as this is the position in which we must be inevitably placed, it is well for a moment to consider it. Practically, the witness is bound to answer all their questions, relevant or otherwise, unless such answer incriminates himself, but their great advantage over the veterinary witness, who probably has only one point to assert which bears on the case, is, I think, their power of avoiding that particular fact or opinion directly and leading through those devious and circuitous by-ways which they know so well how to tread. To assist them in undoing, they have at command the skilled opinion of their own professional witnesses, veterinary works on the subject, and certain publications directly relating to the law as regards horses.

To these works I call your attention for a moment. They are Oliphant's "Law of Horses" (last edition, 1882), and Lascelles' "Horse Warranty" (second edition, 1880). There is also an anonymous legal work on the subject published in 1825, but this, I think, we need not consider. The two first-mentioned works are the productions of lawyers, pure and simple, their veterinary information being either culled from the writings of others, or the outcome of the observations of the amateur. On the other hand, we have books dealing with the subject written by veterinary surgeons who have extracted their law from those already mentioned. Of the two former authors, Oliphant takes as his veterinary authority Youatt's book on the horse, published by the Society for the Dissemination of Useful Knowledge (1865), whilst Lascelles constitutes himself his own authority on the ground that he has owned horses, or if he is indebted to any veterinary author, I find no acknowledgment of the fact, and, as we might expect to find, in the one case the information is out of date, and, in the other, unreliable; the former gravely informs us that a "wolf's tooth" is unsoundness, whilst the latter contends that bone spavin is not necessarily so. The point I wish to make with regard to this (and, in so doing, I am quoting a legal opinion), is that in a lawyer's eyes these works have a greater value, and carry more weight than do those written by veterinary surgeons on the same subject, and I would suggest that it would be a good work done for someone who may have both professional qualifications (and we have more than one such among us), to undertake the publication of a new treatise on legal matters relating to animals generally, and as regards our profession in particular.

Having taken a glance at others who are nearly connected with law questions relating to soundness, we now come to the, from our point of view, most important detail, namely, the consideration of ourselves; and in doing so, I do not intend to spare the rod, but commence by saying that, on questions of soundness, our opinion is not always held in that respect which should be its due, and that for this we have, in great measure, ourselves to thank. I am credibly informed that it is possible to obtain a veterinary surgeon's certificate of soundness for what Mr. Micawber has termed "the ridiculously small sum of half-a-crown," and a system of competition by which we cheapen ourselves and our opinions is one which can only bring the inevitable result of being regarded as of little worth. I would not have it thought that I do not recognise the fact that many of our profession labour under the dire curse of poverty, and so are more readily inclined to sell their knowledge and advice cheaply; but of this I feel convinced, that what can be cheaply obtained is lightly estimated, and that estimation is generally correct, and in no way is it more likely to be proved to be the case than under the penetrating scrutiny of the law. In examinations as to soundness, we incur heavy legal responsibilities, and unless we demand a suitable recompense

for undertaking them, it will be generally supposed either that they do not exist, or that we may disregard them with impunity. That such is not the case may be proved by comparatively recent events. Members of our profession have been arraigned on charges of negligence, have had their opinions traversed and held up to ridicule in the public press, and only have they escaped paying a heavy penalty by proving that the allegations were groundless, or by undertaking costly proceedings against their traducers.

What then is required of us legally in the examination of an animal as to soundness? That we should exercise a due amount of care and a reasonable amount of skill, and this is the safeguard of our employer to ensure his being the recipient of both. It has been held, and rightly, that the amount of time occupied in the examination is no argument for or against the amount of care or skill, and indeed, allowing for differences of method, the man who occupies an unduly lengthy period in his examination is probably hovering between his own ignorance and the desire to prevent its detection.

I have always regarded the position of the veterinary surgeon in examinations as the actual embodiment of *caveat emptor*; there may of course be exceptions, but as a rule I think he should be solely on the side, and in the employment of the buyer, and if the latter fully understands that this is the case, his professional opinion will be credited with more value and weight; and the practice of examining animals wholesale for those who are about to dispose of them is one which, I feel convinced, is not calculated to add to the estimation in which our opinion is generally held.

On the other hand we must be careful not to exercise our power to the undue detriment of the seller, and to confine our opinions to our own province. Now here it is possible to raise a quibble; I do not intend to quibble, but to point out the difficulty which may arise. I find it has been stated that in examinations the veterinary surgeon should be guided (and the owner has a right to expect it), by the principles which are recognised by legal tribunals, for it would be intolerable that any private individual should attempt to constitute himself a legislator on a subject of such widespread importance as this. If we accept such a limitation of our duties, we may refrain from mentioning certain blemishes or defects which, whilst not held to be unsoundness *per se*, would yet leave our client with possibly excellent ground for complaint if such were not noticed by us and pointed out to him, and, if we may suppose an extreme case, we may be in a position to call an animal with capped hocks, broken knees, the marks of brushing and speedy cutting, and a crib biter, "sound," without further remark, though we should undoubtedly lay ourselves open to somewhat hostile criticism.

Again, the word "sound" on a veterinary surgeon's certificate does not cover the definition of that term in a court of law, though possibly some who are not too well informed on the subject believe, and more or less expect it to do so, but it is a fact that horses are constantly bought or refused solely on veterinary opinion, and it therefore behoves us to be careful of its use, for nothing can be more detrimental to our reputation than to have an animal held to be unsound in a court of law which we have previously pronounced to be the reverse.

This brings us to the consideration of the certificate. As at present constituted, the usual form of certificate used by the majority of practitioners, consists of three paragraphs: the first naming the client and describing accurately the animal examined; the second containing mention of the defects which are noted, and the third setting forth the opinion arrived at. In the statement of this last, three terms are commonly employed, "sound, practically sound, unsound." Such a document has the merit of directness and conciseness, but I think it unduly limits our sphere of usefulness, and although it has a distinctly legal appearance it gains nothing in weight from that when

submitted to criticism. In fact I am of opinion that the present form of certificate might, with some advantage to ourselves and our clients, and without detracting from the legal value of our opinion, be replaced by the "letter of advice."

Since writing these remarks my attention has been drawn to an article in the *Live Stock Journal* for December 26th, 1894, by Falcon, entitled "The Veterinary Surgeon and his Client," in which the following passages occur. "To the inexperienced person a certificate which begins by reciting a number of minor evils cannot perhaps be a very hopeful document, and if the horse is to cost any great amount of money the buyer may feel inclined to enter into no further negociations for his purchase. In these circumstances the question has often been asked, how far it is within the legitimate province of a veterinary surgeon to advise his client as to whether he shall accept or refuse a horse. There is a great deal to be said on both sides. The intending buyer, unless tolerably experienced, may not be able to form any opinion as to the real meaning of the certificate, but the veterinary surgeon on the other hand is able approximately to appraise the importance of each blemish or structural alteration, for it must be borne in mind that, according to the legal meaning of unsoundness, any structural alteration or any ailment which renders the horse unfit for use at the moment is, strictly speaking, an unsoundness. And the question might arise as to how far the professional advisers might make a mistake by describing as practically sound a horse which would be unsound in the eye of the law." Falcon also states the opposite of the question, and evidently appreciates the delicate position in which the veterinary surgeon stands, and I think under such circumstances we should be well advised to discontinue the somewhat legal-looking form of document so commonly employed and substitute for it a letter of veterinary advice.

There is a story related of a veterinary surgeon, who, after examining an animal, wrote to his client as follows: "This horse is most unsound, but I strongly advise you to buy him." Such wording is not permissible in the usual form of certificate if we are to confine ourself to legal points and a routine form of expressing our opinion, but it will apply to many cases which must have come under the observation of all. No doubt the document commencing "I certify" is dear to the heart of the seller who can use it as an argument to effect a sale and absolve himself of all responsibility by its means, but I doubt if it is always to either his or our best interests to word our opinion in such a stereotyped manner, and certainly from a legal aspect it gains no additional value.

The definition of soundness now accepted in courts of law is that laid down by Baron Parke in "Kiddel *v.* Barnard," to which may be added the dictum of the same learned judge in "Coates *v.* Stephens." It resolves itself essentially into a question of usefulness, and provides that any disease or alteration of structure from disease or accident which does interfere, or may in its ordinary course interfere, with the animal's usefulness is unsoundness, and further that slightness of disease or facility of cure is no qualification as regards such unsoundness. Such a definition allows too little opportunity for the exercise of our knowledge, and so the veterinary surgeon who allows himself to be confined by legal dicta may pass an animal sound which he is absolutely convinced will shortly become the reverse.

It is then, I think, necessary, if we wish to exercise to the full our powers of observation for the benefit of our clients, that we should make it fully understood that our advice is not in any way a legal guarantee, and may even be opposed to the law, and this may be advantageously effected in the manner I have pointed out.

No doubt it would be possible and permissible, under the heading of this paper, to have considered in detail diseases and defects which constitute, or

may constitute, unsoundness, but I have preferred to take what I think is a broader basis, and chiefly to review our own position in the matter, and, remembering that length does not always increase the value of a paper, to put my thoughts as concisely as possible.

Discussion.

Professor PENBERTHY, who opened the discussion, thanked them for the honour that they had conferred upon him in asking him to open the discussion on the very important subject of "The Legal Aspect of Soundness." He should have much preferred, however, if they had sought another opener. He would take the hint of Captain Butler as to the desirability for conciseness and brevity, and should not occupy their time very long. He envied the powers of memory which Captain Butler had manifested that night. He had listened, with pleasure and wonderment, to that gentleman delivering, word for word, with scarce a reference to his notes, the paper which he had been good enough to allow him to read beforehand. Whether their professional career had been long or short, they had all had it made patent to them that the question of soundness was one of extreme importance to the veterinary surgeon, more especially as the reality of their responsibilities in relation to it might be impressed upon them at any time. He must say that after having both read and heard Captain Butler's paper, he had experienced great pleasure, and he really had nothing to say against it, but was in complete agreement as to its tenour and expression. The ideal position which had been suggested—that of a veterinary assessor—would, he was afraid, always remain purely ideal. Once given assessors, the courts would be full of assessors of different kinds, because he had not the slightest doubt but that the grocer, for instance, had a speciality like the veterinary surgeon. He was afraid they would never see this ideal realised, and it was doubtful if they would be very much better off with their veterinary assessor than they were already with what they might term a "lay judge." Personally, he thought he should prefer the lay judges. One of the most frequent remarks they heard in connection with law cases was that they should give a simple and honest expression of their opinion after careful examination. If they arrived at an opinion, they would be bound to express it. Their expression must accord with their judgment, and though six veterinary surgeons expressed one opinion, and six others expressed an opposite, he did not think that this difference of view was to be regarded as the disgraceful thing which sometimes people held it to be. Given the observance of honourable dealing throughout, and an absence of dogmatism and arrogance in the expression of opinion, he did not think there could be anything justly said against eighteen veterinary surgeons giving an expression of opposite opinion on a subject which always must remain a matter of opinion. He did not think that any veterinary surgeon, after he had made a careful examination, had much to fear from declaring honestly, and without prejudice, the opinion at which he had arrived, although six equally honest practitioners might express contrary views. As far as his experience of judges and juries went, not only in horse cases, but in others, his belief was that what most impressed the court was the manner in which a witness gave his evidence, and in proportion to its frankness, honesty, simplicity, and evident freedom from bias. As to the evidence of the untrained person, he thought they need have no fear of that. Counsel on both sides were pretty sure to bring out the weight that should be attached to evidence of particular witnesses. It was for the counsel, if they did their duty, to show how any witness, by reason of his position and experience, or anything else, was qualified to give evidence, while another witness was untrained and unreliable. With respect to veterinary surgeons, it might be said that, like other experts, they came under an unfavourable

category, so far as the judges and counsel were concerned. An old legal authority had laid it down that there were three kinds of witnesses—the lying witness, the exaggerating witness, and, finally, the expert. And he (Professor Penberthy) believed that veterinary surgeons occupied a position amongst the experts in the minds of counsel, and sometimes, perhaps, in the minds of judges. This consideration should induce them to give their testimony all the more carefully.

As regarded the most competent authority to decide the question of soundness—the judge or the jury?—he was afraid that any discussion of theirs would not affect the point very much. However the jury was composed, whether it was constituted of the proverbial butcher and baker, and candlestick maker, or any other class of men, they knew that the judge had to direct the jury, and they rarely found the latter going against the direction of the former. His (Professor Penberthy's) opinion of horse cases was that the jury simply relieved the judge of a little responsibility by giving the verdict to which he led them.

Touching the literary work on the subject to which Captain Butler had referred, it was undoubtedly behind the times from the technical point of view, but it was to be remembered that there was no special statute bearing upon the question of soundness or unsoundness; the real value of any legal text book under such circumstances must depend upon the number of precedent cases that could be brought to bear upon any given point, and he thought they would find in Oliphant's last edition all cases of importance cited, and arranged in a fairly easy position for reference. But when they came to ask Oliphant for his definition of soundness or unsoundness, they found he said the most absurd things. He, however, referred them, whenever he could, to cases on the point which had been settled, and, as Captain Butler said, a judge was always very jealous of the ruling of a judge before him, and was to a large extent guided by precedent. Hence he (Professor Penberthy) thought it behoved them, to some extent, to make themselves cognisant of the ruling of judges with regard to the question of soundness or unsoundness. In certifying or expressing an opinion as to the soundness or unsoundness, they had their reputations to maintain, and this should make them careful. They must seek to preserve themselves, and they could not do this in any mean or niggardly fashion, or they would get no horses to examine. If they followed the advice of Captain Butler, and put themselves in the position of adviser to the purchaser of an animal submitted for their examination, they would always be conserving the proper interest, while at the same time they would be protecting themselves. As regards "the half-crown men," he did not think they need be much feared. They did not appear in court very frequently, and they were not, as a rule, asked to examine horses which were likely to form the subjects of actions at law. The only thing that could be asked of them as veterinary surgeons, was that they should exercise an ordinary amount of skill and reasonable care. If they proved that they had done this, although they might not win their case, yet they would have demonstrated that they had done all that they possibly could. And looking at the legal aspect of soundness, he believed that the *sine qua non* was that they exercised a reasonable amount of care in their examination. Well, then they were told that they must confine themselves to their own province. They had to ask themselves what that province was.

Captain Butler had called their attention to the letter written by "Falcon," which appeared in the preceding week's *Live Stock Journal*. He read the letter himself, and he thought it was putting the case fairly and with some degree of knowledge. But he thought that when they spoke of the legal aspect of the question, they should understand pretty clearly what their responsibilities were, because when they came to discuss what soundness or

unsoundness meant, they found that Baron Parke laid it down that sound meant perfect, a term which bore no qualification.

Then Baron Alderson, who followed Baron Parke, said "If the term *sound* will bear any qualification it must refer to the purpose for which the horse is to be purchased." So that on this ruling, in examining horses for soundness from a legal point of view, they had something more to consider than their state of perfection. There was a grave doubt in his mind whether, if they had to use the word *sound*, they might not, according to Baron Alderson's decision, apply that term to a horse with a "spavined hock," provided that did not interfere with its usefulness for the purpose for which the horse is to be purchased.

Turning next to the question of the certificate, Professor Penberthy said that personally he had a strong opinion on the certificate question. He thought the sooner they did away with the formal certificate, and put themselves in the position of the purchaser, and advised him about the article he was buying in the same way as another expert would advise him, the better.

Not that by not writing a certificate they would relieve themselves of any responsibility. They must always be prepared to bear their responsibility. Clients would not pay them a guinea for nothing. But a man might say that he did not want the advice which he (Professor Penberthy) suggested should be given ; he might say that he desired to know whether a horse was sound or not sound. To this the practitioner might reply : "It is scarcely worth while to take the trouble to examine the horse, because the majority of horses are so far from being perfect." It remained with the veterinary surgeon to determine whether he would continue to use the word *sound* or not. The absurd demand for the word *sound* or *unsound* did not frequently occur. In some cases it was found necessary to use the terms, but in the majority of instances he believed that intending purchasers went to veterinary surgeons with some such request as this : "Here is a horse, I want to buy him, I like the look of him. If you think he will suit my purpose and last fairly well, I shall buy him." And the intending purchaser was probably guided by the answer he received, but if he wanted a certificate the bargain was off. He (Professor Penberthy) did not suggest that this alteration would relieve the veterinary surgeon from any responsibility in a court of law. When a veterinary surgeon, after examining a horse and finding it to be lame, wrote out in his study "*I hereby certify* that I have this day examined for John Jokes, Esq., a bay gelding which I regard as *perfectly* sound," the purchaser was naturally apt to be wroth when next day he discovered the horse lame, and so, armed with the veterinary surgeon's certificate (a wonderful legal document not discouraged by his lawyer), he went to law. The speaker thought if it were deemed desirable to irritate one to the fullest extent you should lose no opportunity of a legal form making him feel positively certain that he is buying the most perfect treasure which to-morrow was imperfect. A letter or verbal advice given in the presence of a witness might not have that effect in inciting a person to go to law which a certificate, given in the form mentioned, was apt to have. The certificate generally adopted was apt to excite the litigious temperament and lead a purchaser to go to law. Where the veterinary surgeon mostly incurred liability was when, failing to exercise a fair amount of skill and care in the examination of an animal, he dogmatically asserted that it was "sound." They were all liable to err occasionally, but his belief was that the majority of veterinary surgeons did use much care in the examination of horses, and the fact of a man holding the diploma of the Royal College of Veterinary Surgeons, though it could be no guarantee so far as they were concerned, was nevertheless a certain amount of guarantee in a court of law, and in the hands of able counsel it could hardly

be broken down if evidence of sufficient care were forthcoming. The matter which was most important, as proved against a veterinary defendant in a court of law, was failure to exercise the proper care. Not long since a veterinary surgeon paid over a sum of £180 rather than go into court, against the advice of his counsel, because he had failed to try a horse on a hard road before pronouncing it to be sound.

He (Professor Penberthy) thought that if they had exercised ordinary care with ordinary skill, experience showed that examinations did not entail much liability. There were 2,000 veterinary surgeons in this country, and allowing to each 25 horses per annum, that would give 50,000 horses annually examined. How frequently did they find a record of veterinary surgeons being made responsible either for want of care or skill? Such instances were extremely rare. He had been searching through files of the VETERINARY JOURNALS for some time past and he found record of very few instances in which veterinary surgeons had been sued.

When they came to the definition of soundness he preferred taking as his guide Percivall's definition rather than that given in any legal text-book. In concluding, Professor Penberthy said that while they would allow that, regarding the word "sound" as synonymous with "perfect," there were not many "sound" horses. They did find there were a large number of "suitable" horses. Taking then the term "suitable" as their guide, avoiding the word "sound," and putting themselves in the place of the purchaser, while using ordinary care and skill in their examinations, he thought they would find their liability would prove comparatively small. At the same time he believed that they would thus be fulfilling in the great majority of cases what was asked of them. He thought the members of the veterinary profession might well advise intending litigants not to go to law, and suggest arbitration instead, arbitration which would be final, and secure an expert judge. Clients whose feelings had been hurt by some undesirable purchase he often referred to the work of art which depicts the plaintiff tugging at one end of a cow, and the defendant at the other, while the lawyer milked the said cow. By this means a less costly and far more satisfactory decision was likely to be reached. If he were asked, as an expert, whether in his opinion in the majority of the cases he had heard tried, he believed that the correct verdict had been given, he should have to say he would not have given such. The point which Captain Butler's paper had raised was a very fertile one for discussion. It always had been and would be for a very long time. And he (Professor Penberthy) thought that with all the care and skill they were going to exercise in expressing their opinion they should be guided to a very large extent by the law of self-preservation, by the knowledge that the law of the country was most uncertain, by a feeling of justice between man and man. Nor should they take too narrow a view of the subject, because they thought that the young veterinary surgeon lost a very large number of clients in his start by over care in the examination of animals for fear of the legal contingencies. He would certainly recommend the exercise of ordinary care and the greatest skill, but he asked them to reflect that notwithstanding all the horses which had been examined, even with the imperfect knowledge that had existed in early days of the profession, cases of proved liability had been rare. They might reflect too that with their increased faculties they incurred little danger in the present, whilst they gave the proper care and skill and were guided by the ordinary laws which should guide men in their dealings with each other.

Mr. HUNTING: This is too big a subject to go on with now. I therefore propose that the further discussion be deferred until our next meeting.

Professor MACQUEEN: I beg to second that.

The CHAIRMAN: I dare say you all know that there is a kind of unwritten

law that the mover of the adjournment resumes the discussion. I ask Mr. Hunting whether he will undertake this?

Mr. HUNTING: I did not think of that, but I will resume the discussion as desired at our next meeting.

The resolution was agreed to.

The British Institute of Preventive Medicine.

Mr. HUNTING: I desire to give notice that at our next meeting I will re-open the subject of our making a grant to the British Institute of Preventive Medicine. I must apologise for this somewhat unusual proceeding, but my excuse is that I have perhaps more information than the Council of this Society had before them, when at their last meeting seven gentlemen reversed the decision of some fourteen at the meeting of the Society itself.

Thanks to the chairman, moved by Professor Penberthy, and seconded by Mr. H. Edgar, concluded the proceedings.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE annual meeting was held at the Queen's Hotel, Leeds, on January 25th. The President (Mr. James Cooke, Scarboro') was in the chair, and there were present: Messrs. F. Thompson, Harrogate; F. W. Clough, Morley; Frank Somers (hon. sec.), Philip Deighton, Riccall; Geo. H. Simpson, Samuel Wharam, G. S. Bowman, A. W. Mason, Leeds; Benj. Smith, Barnsley; Joseph Carter, Bradford; Geo. W. Carter, Keighley; J. Atcherley, Harrogate; J. G. Scriven, Tadcaster; William Awde, Stockton-on-Tees; George Whitehead, Batley; H. Snarry, G. Pickering, York; Frank Hallilay, Dewsbury. Visitors: Mr. E. Faulkner, Manchester; Professors. Williams, W. O. Williams, and Veterinary-Captain Dibben, 17th Lancers.

Letters of apology were received from Dr. Fleming, Professor McFadyean, Messrs. A. McCarmick, C. Steel, Leeds; H. Olver, Tamworth; Professor Pritchard, H. J. Chorlton, Manchester; H. J. Dawes, West Bromwich; W. Hunting, London; Professor Penberthy, Alfred Peele, West Hartlepool.

Mr. Charles Seckar Smith, Barnsley, was nominated as a member of the Society by Mr. Whitehead. Mr. J. E. Scriven nominated Mr. J. W. Lazenby, of Boston Spa, and Mr. Holden, of Scarborough.

Mr. G. H. Simpson, Leeds, was elected a member of the Society.

Mr. FRANK SOMERS, hon. sec., read communications from Dr. Fleming and Mr. Hunting, thanking the Society for having elected them honorary members.

Votes of Condolence.

The CHAIRMAN formally moved a vote of condolence with the families of the late Professors Walley and Gamgee. It would require no remarks from him to remind them of the high position these gentlemen had formerly held, and the profession was undoubtedly poorer by their loss.

Professor WILLIAMS said he had had the privilege of knowing both the deceased gentlemen. Professor Gamgee was a lecturer when he was a student, and he would pay him the just compliment of saying that no harder-working man or more able lecturer was ever connected with any college. He was a gentleman of ability, resource, and energy. He would not only lecture on anatomy in a morning, but he gave lectures on physiology in the afternoon, besides attending to his duties of dissecting. His acquaintance with Continental languages was very extensive, and he had, therefore, an advantage over others, especially in his earlier days. In 1857, he predicted that if the free importation of cattle was allowed to continue, an outbreak of cattle-plague would be the result. That was many years before the cattle-plague

broke out. Had the Government of this country given Gamgee a million of money for this suggestion, and acted upon it, the country would have been millions in pocket. He warned the Government years before it came, but they would not accept it, and instead of having honour conferred upon him, he received nothing but abuse. He (Professor Williams) had the greatest admiration for the deceased gentleman, and, perhaps, some day or other, might find time to write something about their early associations. Professor Walley also was associated with him for some time previous to his resignation at the Dick College. Professor Williams briefly alluded to the causes which gave rise to that resignation, and gave his reasons for instituting the New College, which, he was pleased to say, was a great success. Professor Walley and himself differed on many points. As a gentleman, he admired him very much. He was a hard worker, and no doubt he shortened his life by hard work. He attended meetings of societies everywhere. He was most anxious to teach his students up to the standard. He exceedingly regretted his death, and could not sufficiently express the esteem in which he had always held his character.

The motion was carried.

Rabies in Leeds.

Mr. FRANK SOMERS said they would all be aware a most serious outbreak of rabies had recently taken place in Leeds and other parts of Yorkshire. In Leeds, over 1,000 dogs had been destroyed, and there had been 24 or 25 cases of rabies. About a dozen people had been bitten and had gone to the Pasteur Institute. There was no doubt the wholesale destruction of homeless curs would have the effect of preventing the spread of the disease.

The CHAIRMAN said the notorious outbreak of rabies in 1892 and 1893 at Scarborough would be within the recollection of all, and he did not think the cause of the outbreak was far to seek. In the first place, a person possessed a dog, and, as very frequently happened, possessed very little sense. Thinking something was the matter with the dog, they sought the advice of a man who professed to have dog knowledge, and this individual diagnosed the case as one of glanders. Consequently, the animal was allowed to roam at large, and bit any number of dogs. The result was they had a bad outbreak of rabies at Scarborough. If the advice of a veterinary surgeon had been sought in the first instance, and the disease properly diagnosed, it might have been nipped in the bud, and thus the spread of the disease prevented. The cases at Scarborough were chiefly dumb rabies. There was one circumstance he would like to call attention to. At the meeting two years ago last October, the subject of rabies was brought up for discussion by Mr. Lodge, of Dewsbury. That gentleman mentioned a case in which a man had been bitten at Dewsbury, and there being a doubt in the case, he and the medical officer made a *post-mortem* examination of the dog. The result was they decided the dog had not suffered from rabies. Unfortunately, shortly afterwards the man who had been bitten by the dog died of hydrophobia, showing clearly, notwithstanding the appearances of the *post-mortem* examination, that the dog must have suffered from rabies. He remembered a case of one dog at Scarborough, which, after a most careful examination, he was perfectly sure was suffering from rabies. However, in that particular instance, he sent the carcase to the veterinary department at Whitehall, and he afterwards received a notice to the effect that the animal showed not the slightest appearance of rabies; the only appearance there was, was congestion of the larynx. That he (Mr. Cooke) would consider a symptom of rabies. It struck him it would be rather awkward for a man who had been bitten, and who had to wait to know whether the dog was mad or not. It seemed to him the ordinary appearances looked for were evidently not sufficient, but that more

searching examinations of dogs, by means of the microscope or otherwise, were necessary.

Mr. GEORGE CARTER (Keighley) referred to a letter he had recently had in the press on the question of rabies, in which he pointed out the advisability of dog-owners having their animals examined immediately on exhibiting any signs of derangement. In his district he could with confidence trace the whole of the outbreak to one brindled bull terrier, which came through Keighley, in the early part of 1894, and bit many dogs. This dog was killed some distance from Keighley, and he made a *post-mortem* examination on it. At first, from the *post-mortem* examination, without the previous history, it was exceedingly difficult to say whether a dog was suffering from rabies or not, but since then he had made so many examinations, that he had been led to think the *post-mortem* appearances were more conclusive than the text books had taught them to believe. Mr. Carter alluded to some characteristics he had noticed in certain cases. There was no doubt that animals suffering from rabies travelled very long distances. In some cases he had found the pads of the feet almost completely worn away. In many cases the stomachs were entirely empty of solids but there was a fluid of a greenish character. In every case the stomach was either entirely empty, or contained a quantity of foreign material, such as coal, chips of wood, masses of hair, and all sorts of things. He thought the best advice to be given to dog-owners was to consult a veterinary surgeon immediately a dog appeared to go wrong. Since 1894 he had had no less than 56 cases of rabies brought before him.

Mr. G. BOWMAN (Leeds) said he agreed with Mr. Carter's opinion as to the appearances at the *post-mortem* examination where rabies existed. In several cases he had found in the stomachs pieces of wood, cinders, masses of hair, and in one or two cases pieces of carpet and oilcloth. In other cases, he quite agreed that the stomach was practically empty.

The PRESIDENT did not think the muzzling order was strictly enough carried out in some municipalities and rural districts. He believed, to do any good in the direction which the local authorities aimed at, there should be an imperative muzzling order applicable everywhere. For instance, it was of no practical utility as a preventive to compel the muzzling of all dogs in Leeds, and yet in other places, such as Keighley and Ilkley, to allow the animals to go unmuzzled. There could be no doubt whatever that in order to totally eradicate the disease there must be a stringent muzzling order throughout the kingdom.

Professor WILLIAMS declared that the muzzling orders as now carried out were simply a farce, and that if any good was to be done towards preventing hydrophobia there should be an authoritative muzzling order, universal in its application and enforcement. Dogs when attacked by rabies were sure to go wandering away to long distances. They would travel from one county to another, spreading the mischief wherever they went, and there was no way to put a stop to the dire consequences but by compelling absolutely that all of the canine race should be rendered incapable, so far as human means could do it, of spreading this horrible malady broadcast in all directions.

Mr. MASON suggested that in addition to universal muzzling there ought to be a universal muzzle, which should alone and exclusively be tolerated.

Professor W. O. WILLIAMS said there was no doubt that rabies to a great extent was imported into England from Ireland, where a great deal of it existed. Dogs which had been bitten by rabid animals in Ireland came over in the steamboats along with the cattle, and in that way the disease was often propagated in this country. A general muzzling order for England would not answer its purpose, unless some severe restriction were placed upon the arrival at our seaports of dogs which had been exposed to great danger of rabies in the sister country.

Mr. G. CARTER was of opinion that seeing how serious the outbreak of rabies was now, it would be well if this Association passed a resolution suggesting that the Board of Agriculture ought to take cognizance of this dangerous state of affairs, and adopt some drastic measures for its suppression. He therefore proposed "That this Association respectfully suggests to the Veterinary Department of Agriculture, in consequence of the very serious phase which rabies has assumed in the North Riding of Yorkshire and also in other parts of Great Britain, that a more centralised control be exercised with respect to this disease, and that it is desirable that an efficient muzzle be devised, the wearing of which by all dogs be made compulsory for a period of at least one year throughout the whole of Great Britain, and also that a period of quarantine be imposed on all imported dogs." He said, as they all knew, it was really wonderful how far dogs afflicted with rabies travelled. One animal with which he had had to deal at Keighley broke away, and was at length stopped in its mad career so far away as Ormskirk in Lancashire. Of course, there was no telling how many other dogs that one had bitten, nor for that matter, how many human beings it had attacked in its long journey. There was another case of a rabid dog disappearing from Morley, in the neighbourhood of Leeds, and probably it had bitten all of its own species which it came across until it reached Keighley. He had recently been able to trace several instances of rabies resulting from bites of that particular dog. He would mention another matter which should not be lost sight of at a time of so much apprehension as this, and that was, should not the cost of a dog license be increased. The fact he had before mentioned, that as soon as a dog became rabid he had an uncontrollable propensity to wandering abroad, and to bite anything that came in his way, even if it should be snapping at a lamp-post, ought, in his opinion, to demand that the means of prohibition should be immediately made thoroughly unavoidable.

Mr. H. SNARRY seconded Mr. G. Carter's proposition.

Mr. MASON supported it, pointing out that veterinary surgeons should make it a matter of importance to impress upon the general public that they were using every endeavour to protect them from exposure to this dreadful disease.

The resolution was carried unanimously.

Canadian Peas.

At the last meeting of the Association, Mr. Clough, of Morley, produced a sample of peas which, he represented, had been used in feeding a number of horses which had been placed under his charge, and which he believed had been affected injuriously by that kind of provender.

Professor WILLIAMS brought up the subject on the present occasion, and said his examination of these specimens showed him that although one grain might be a pea, the other was no pea at all. The latter was a vetch. There were two varieties, a white and a brown. He had had considerable experience with animals fed on these articles, and he could not condemn the use of them too emphatically. He knew cases of horses which had been fed on them dying from suffocation in a most mysterious manner. At a certain time a horse would appear to be perfectly well, but in a few minutes after be dead. There had been instances of horses fed in this way not showing any symptoms of ailment until three months after. The disease this food generated did not develop until that length of time. Many such cases had occurred in Liverpool. He had devoted considerable time to the study of disease resulting from the eating of this grain. In some cases he had found it an affair enveloped in mystery, although he had very carefully examined the fodder on which the animals had been fed, and he had invariably come to the conclusion that this particular grain had been the cause of death.

Recently he had investigated several cases of this kind. At Newcastle and in Edinburgh *post-mortem* examinations had been made under similar circumstances with the like result. In last month's VETERINARY JOURNAL there appeared some correspondence upon this question. What the precise nature of this fatal poison was he admitted he was not fully prepared at present to say. There was something in connection with the matter yet to be discovered, but he could not be too vehement in his condemnation of this grain being used as a feeding stuff, at all events for horses.

Mr. CLOUGH exhibited some plants which he had grown from these so-called "peas," and said he had not been able to get them into a flowering condition; with reference to which Professor W. O. WILLIAMS remarked that probably they would not flower except in the summer season.

The Profession and Newspaper Articles.

Mr. F. SOMERS (the hon. secretary) reminded the meeting that on a former occasion he had drawn the attention of the Society to a series of articles on "Veterinary Knowledge for Farmers," appearing in the *Leeds Mercury*. One to which he wished particularly to allude was attributed to Professor Wortley Axe, and in accordance with a resolution proposed by the members then present, he had written to Mr. Axe on the subject, and from that gentleman had received the following reply :—

"1A, Lower Sloane Street,
"Sloane Square, London, S.W.

"DEAR SIR,—

"I have to acknowledge the receipt of your letter of some time ago, and as I fear my views of professional etiquette cannot be reconciled with those held by your Society, I will ask you to have my name removed from your list of members.

"I am, yours faithfully,
"J. WORTLEY AXE,
"*Professor.*"

"Frank Somers, Esq.

Proceeding, Mr. Somers said :—It will be remembered that on the last occasion of our meeting in October I introduced the subject of an article in *The Leeds Mercury*, entitled, "Veterinary Knowledge for Farmers—Practical Papers on the Preventible Diseases of Farm Stock." On the exact date of our meeting the first and introductory insertion appeared, by Professor J. Wortley Axe, in which was described the founding of the Royal Veterinary College, also various contributions of treatment of diseases. The first paper, comprising two columns of information, was then shown to you, and since that time seven other weekly contributions have been given, for which Professor Axe and his colleagues have, no doubt, received satisfactory remuneration. The second paper on "Swine Fever," by Professor Axe, describes the history and nature of the disease, the symptoms and identification. The paper mentions that Professor Axe is one of the first living authorities on veterinary science. The third paper is by Mr. Alfred E. Pease, and although he is not a veterinary surgeon, but is described as a stock-owner, he fully describes the ailments and diseases of horses, but his descriptions are chiefly confined to diseases of the limbs, and are of a common and vulgar description, and probably have been copied from some cheap, unprofessional work. In describing ringbone, he says the following are the symptoms: a filling and rising of the hoof, inability to flex the pastern joint. I wonder at *The Leeds Mercury* publishing such rubbish, and I wonder more that Professor Axe associates himself with such an intelligent authority. In describing in a following article the symptoms and treatment of various ailments, from colic down to windgalls, he shows his ignorance in a most marked manner. He certainly,

in many instances, suggests sending for the "vet.," and I should think no one would receive such satisfaction from a qualified veterinary practitioner as this writer himself. A large jump is then made from Professor Axe—of many years standing—to a person named Mr. Harold Sessions, M.R.C.V.S., and who writes on diseases of cattle. This is a man who has been qualified three years, and who comes from Gloucestershire, and he confines his remarks to the general diseases of cattle, with a special reference to tuberculosis and anthrax. Professor Axe finishes the series of wonderful papers by two lengthy articles on sheep. Now, gentlemen, this professional advertising and writing to newspapers is calculated to injure the profession in many ways. It is almost impossible to pick up a sporting paper of any kind without noticing "veterinary advertisements" and "veterinary advice" given free. I hope this society and other societies will take some notice of these pernicious practices. My attention has been drawn to an article criticising the action we took on the occasion of our last meeting, and which recently appeared in *The Mark Lane Express*, but we can afford to treat such matters with contempt. It seems deplorable that, whilst the veterinary schools and many practitioners are doing their best to raise the status of the profession, an ex-professor will be the means of circulating veterinary advice for one penny.

The PRESIDENT said he had been struck with the way in which some of those articles in *The Mercury* had been written. They certainly could not have been written by practical men, and in some respects the advice therein given was simply absurd. Moreover, it had occurred to him that some of those articles had been copied out of some out-of-date text book. From the class of men who had written some of those articles nothing better could have been expected. One man, admittedly, was not a veterinary surgeon at all, and another had only been a veterinary surgeon for a year or two. He conceived that the main object these persons had had in view was to get their names before the public for advertising purposes. The case ought to go before the Council of the Royal College for their opinion to be expressed upon it.

Mr. FAULKNER, of Manchester, said that this subject, looked at from a professional standpoint or from that of individual members of the profession, or from that of the man who had done this, was very deeply to be regretted. It was a most unsatisfactory position of affairs to have a professor who had occupied the position of teacher in the schools—working for years in teaching students how to gain an honourable livelihood—when he had disassociated himself from that teaching, to forget the position he had held and the work he had done, and to apply himself to do his best to thwart the aspirations of his former students; it was deplorable truly, and all the more so because unfortunately this sort of thing had become a growing evil. It had been in existence more or less for years, until at the present time there was scarcely a journal devoted to agriculture in which there was not found veterinary advice given which was not worth the proverbial "copper." When they saw leading and shining lights of the profession lending themselves to this sort of thing he thought it was about time the Yorkshire and the Lancashire and other Veterinary Medical Associations insisted that such a state of matters should no longer be ignored by the authorities. They had very great respect for Professor Williams, of Edinburgh, and his son—both of whom honoured them that day with their presence. Many of those present had received their education at the hands of those gentlemen, but how would those gentlemen stand in the estimation of this Association if they condescended to lend themselves to the kind of thing now exposed and censured. It was really an important matter for such a meeting as this of Yorkshire veterinary surgeons to bring under notice, and for them to consider whether something could not be done to prevent such a cause for scandal as

this; and moreover to put an end to the publication of articles in newspapers which could not but be to the serious prejudice of country practitioners. Mr. Faulkner went on to introduce the subject of objectionable legal proceedings taken at the instance of the R.S.P.C.A., and gave several unfortunate instances of oppression and injustice which had arisen in Manchester and district. He gave some details, and asked the Association not to overlook such matters, but to take action whenever they saw that the circumstances of the case demanded it.

The members unanimously accepted Professor Axe's resignation.

Professor WILLIAMS said no doubt the present discussion upon that gentleman's conduct would do much good, and might, it was hoped, be a warning to others. This subtle but sinister way of advertising did not now make its appearance for the first time, and he said he regarded no less a person than Professor Brown as having been the pioneer in this kind of proceeding, having published a book which might have been intended to take the bread out of the mouths of those who had come under his instruction. While agriculture was in such a state of depression the farmer would hesitate before consulting his veterinary surgeon, and in such a book as Professor Brown's he might think he had the means of avoiding that expense. Now, until such conduct as that of which certain men were guilty was punished and put a stop to, the social position of a veterinary surgeon would never be what it should be. It was all the more grievous that some of the leading men in the profession should lend themselves to this sort of proceeding, and as an example, and in the hope that it would be a deterrent, he advised this Association, as one of the fathers and founders of it, to accept Mr. Axe's resignation without any further observation.

Mr. G. CARTER seconded, and said he believed the object Mr. Somers had had in view would be best served by the adoption of that course, and he agreed that the less publicity was now given to this matter of complaint the better it would be.

(*To be continued.*)

THE WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

THE above society held their quarterly meeting in Glasgow, on Thursday, the 14th of February, Mr. Campbell, F.R.C.V.S., Kirkcudbright, in the chair. There was a large attendance, amongst those present being: Principal McCall, Professors Owen Williams and McCall, Messrs. W. Anderson, Glasgow; McFarlane, Greenock; Frew (hon. secretary), Glasgow; Peddie, Glasgow; Brownlee, Coatbridge; Green, Irvine. There were numerous visitors, among whom were Mr. Malcolm, F.R.C.V.S., Birmingham; and Mr. P. Moir, M.R.C.V.S., Edinburgh. The secretary announced that the society was honoured by several applications for membership, and proceeded to nominate the applicants, to be elected at the next meeting. The chairman congratulated the society on such a good gathering, and trusted that now they had awakened from their Rip-Van-Winkle-like sleep, they would keep awake for a long long time. He moved that there should be only two meetings a year—one in February and one in September—and he urged upon the members the desirability of attending the meetings of other societies, and entering into their discussions. He also thought a joint meeting of the veterinary societies in Scotland once, annually, would be productive of many good results. The chairman next exhibited an apparatus for the inhalation of chloroform, simple in construction, yet effective, that can be carried in the breast pocket, without the slightest inconvenience. He strongly advocated its use, it being in his opinion immeasurably preferable to the apparatus, such as Carlisle's, now generally used. A trochar and canula was next

shown, of a smaller calibre than usual, with which the chairman had performed several delicate and uncommon operations. Double-edged draw knives, mostly used by our Gallic neighbours, were also shown and recommended.

The chair was now vacated by the president in favour of Principal McCall, as important and pressing business necessitated his departure. He received a cordial vote of thanks from the meeting.

Mr. MALCOLM, F.R.C.V.S., then read his paper on Canker, given before another society, and published in the "Quarterly Journal of Comparative Pathology."

A brief discussion followed, the views of several of the speakers varying from those of the essayist. The feeling of the meeting was unanimous, however, that Mr. Malcolm's great success in treating the disease was the result of sound practice, combined with a large amount of patience and perseverance, also, that much valuable information had been brought to their notice. Principal MCCALL, in closing the proceedings, stated that while he was not in accord with all the opinions of Mr. Malcolm as to the origin and purely local character of the disease without reference to hereditary predisposition or constitutional influences, he desired to compliment him on the study and care he had bestowed on his paper, also to thank him for his very great kindness in giving them in Glasgow the opportunity of hearing it. He therefore moved that a hearty vote of thanks be accorded to Mr. Malcolm, which was unanimously supported. The business of the meeting closed with a vote of thanks to the chairman.

Legal News.

AN INTERESTING HORSE CASE.

MR. JOHN A. HOPE, Portland Square, Carlisle, sought to recover damages from Mr. John C. Toppin, of Musgrave Hall, Skelton, for breach of warranty and misrepresentation in the sale of a horse.—Mr. Shee, Q.C., and Mr. Sharpe (instructed by Messrs. Blackburn and Main, Carlisle), appeared for the plaintiff, and Mr. Mattinson (instructed by Mr. Errington, Carlisle), for the defendant.

Mr. SHEE, in opening the case, said the action was brought to recover damages for breach of warranty of a horse, or misrepresentation relating to a horse at the time of its purchase by the plaintiff. Mr. Hope was at Hetheringtons' Auction Mart on the 3rd May, and there saw a chestnut mare, named Gameboy, belonging to Mr. Toppin. Mr. Hope asked Mr. Toppin if the horse was sound, and he replied that it was; he had bred it and trained it, and it never ailed anything in its life. Shortly afterwards the horse was brought into the ring, and was bid by Mr. Hope to 60 guineas. There was a reserve on the horse, and as it was about to be taken out of the ring, Mr. Hope went up to Mr. Toppin and again asked him if it was sound. Mr. Toppin said it was perfectly sound, and thereupon Mr. Hope bid another five guineas, and became the purchaser at 65 guineas. A few days afterwards it was discovered that the horse was suffering from chronic laminitis, or "foundering," a disease in the foot; and their case was that this disease had got to such a stage that it could not be unobserved by the defendant or his groom.

The plaintiff gave evidence bearing out his counsel's opening statement, and said he would not have bid for the horse had it not been for the statements of Mr. Toppin that it was perfectly sound. Two days afterwards the horse was tried before Mr. Bell, who said the horse was suffering from chronic laminitis. The plaintiff drove out with Mrs. Hope and saw Mr.

Toppin, who denied that the horse had suffered anything while with him, and repeated that it was sound. He said that if he let it have a summer's run, the defects would disappear. Mr. Toppin said Mr. Bell was prejudiced against him in consequence of a law-suit. Acting on Mr. Toppin's suggestion, he put the horse out to grass. His claim was for £55, that being the difference between the amount which the horse fetched when re-sold, and the amount of his expenses.—In cross-examination by Mr. Mattinson, who said there was no dispute as to the amount of damages, the plaintiff said the horse was knocked down at the sale, and he received delivery of it from the officials of the mart. The witness would not at first have noticed that there was anything wrong with the feet had Mr. Bell not called his attention to them. He had great faith in Mr. Toppin's knowledge. In August the witness entered the horse for the hunters' class at Carlisle show.

Witnesses were called on both sides, amongst whom were Mr. Bell, veterinary surgeon, and Mr. Wragg, ex-President R.C.V.S.

Mr. MATTINSON said the case had narrowed down to one issue, but it was an important issue. Mr. Toppin was sought to be made liable because his conduct had been the conduct of a common cheat. They were asked to say that Mr. Toppin, who was a man of the highest character, doctored up this horse for the purpose of cheating, and that he succeeded in deliberately cheating Mr. Hope in connection with this transaction. If they believed that Mr. Toppin acted like a common rogue and thief, then they ought to give the plaintiff the verdict; but unless they believed that, then they must give the verdict to the defendant. Mr. Mattinson dealt with the evidence at length, and argued that there was nothing which would justify them in saying that Mr. Toppin was guilty of the serious misconduct of "faking" up this horse, and then making false representations in order to fraudulently palm it off.

Mr. SHEE said his friend made a good deal of Mr. Toppin's reputation, and asked whether he was likely to treat a horse in the manner alleged. All he had to say with reference to that was that this was a horse case. There could be no doubt that Mr Toppin gave Mr. Hope the warranty, because the latter, relying on it, refused to believe for some time that the horse had laminitis. The evidence of Mr. Young and the two surgeons was equally conclusive that the horse had laminitis, and was, therefore, unsound at the time of the sale. The statement that it was sound was, therefore, untrue. Did Mr. Toppin know that it was untrue when he made it? Mr. Toppin was a dealer, and the horse having the acute stage of laminitis while in his possession, he contended that he must have known it. Mr. Toppin did not usually sell his horses at the marts; he sold his good horses at home, and it was only the ones he wanted to "weed" out that he sent to the mart.

THE LORD CHIEF JUSTICE in summing up, said before they could find a verdict for the plaintiff the jury must be satisfied that the defendant represented the horse to be sound, that the plaintiff was induced by those representations to buy the horse, that the representations were false, and that they were false to the knowledge of the defendant. That was no doubt a serious issue. The proof lay with the plaintiff, and they ought not to give him a verdict unless they, as reasonable men of the world, were satisfied that he had made out his case; but if they were satisfied that he had made out his case, don't let them be deterred from giving a verdict which they thought was the just and true verdict to give by any consideration as to what the position of the defendant was, or what effect the verdict might have upon his character or reputation. The consequences of their verdict was not a matter for them to consider at all. His lordship, in the course of a lengthy review of the evidence, said he considered Mr. Young a witness of great importance, and his story was that on the morning of the sale he at once saw that the horse was suffering from laminitis. If that was a reliable statement as to

the horse's condition, it was very difficult to believe that that state of things did not come to the knowledge of the defendant, who, they must remember, was no innocent in these matters. They had the testimony of Mr. Bell and Mr. Wragg, two experts, to the fact that the horse was suffering from laminitis, and his lordship dwelt on the evidence of Jopson, one of the witnesses for the defence, as corroborating their view. In conclusion, his lordship said the first question the jury had to decide was, "Was the representation of soundness made?" There could be no doubt it was made. Indeed, the fact that it was made was hardly disputed. It seemed to be of very little moment whether the original statement was repeated when the horse was in the ring. Probably, as Mr. Toppin was only able to say that he did not remember repeating it, they would think that Mr. Hope's account was true, and that it was repeated. The next question was, "Was the plaintiff induced to act on that misrepresentation?" and "Was it false," or, in other words, "was this a sound horse?" The last, and most important question was, "Did the defendant know that those representations were false?" If they believed the evidence of Mr. Bell and of Mr. Michael Young as to the indications which they observed, it was very difficult for any conscientious man to believe that to a skilled and experienced eye those indications would not have been observable.

The jury, after an absence of two hours and a quarter, were sent for by his lordship. The parties having agreed to accept the verdict of a majority, the Foreman said eleven were in favour of the defendant and one against.

The LORD CHIEF JUSTICE: Then there will be judgment for the defendant.

Mr. SHEE, on Monday morning, referring to an application which had been made for a stay of execution, asked his lordship not to give his decision upon it until he had had an opportunity of perusing an affidavit as to the history of this horse, which was not known to the plaintiff previously.

Mr. MATTINSON said he placed no difficulty in the way of granting a stay, so long as it was not taken as an expression of his lordship's view when the case came on in the Court of Appeal.

Mr. SHEE asked his lordship to reserve his opinion until he had had an opportunity of bringing forward the affidavit.

The LORD CHIEF JUSTICE said he would grant a stay now. He did not wish to express any opinion about what the jury had said and done. He should do that in his report to the Court of Appeal.

Correspondence.

NEWBRIDGE, 12*th February*, 1895.

To the Editor of the VETERINARY JOURNAL.

SIR,—With reference to my article on "Roaring" of your issue for this month, would you kindly notify the following corrections:—

On page 89, in seventeenth line, for "which" read "and."
Throughout the article, for "junction" read "function."

There are several grammatical errors due to haste of compilation, but as these do not affect the scientific value of the facts stated, they need not be corrected.—Yours sincerely, A. J. HASLAM, A.V.D.

THE NEW REGIME AT THE COUNCIL MEETINGS.

To the Editor of the VETERINARY JOURNAL.

DEAR MR. EDITOR,—In the report of proceedings of the Council meeting of the R.C.V.S., which appears in this month's VETERINARY JOURNAL, there

is an important omission which I must ask you, in justice to myself, to repair, by inserting the following letter, which was read at that meeting.

I am, etc.,

February 14th. GEORGE FLEMING.

HIGHER LEIGH, COMBE MARTIN, NORTH DEVON,
January 1st, 1895.

The Secretary, Royal College of Veterinary Surgeons.

DEAR SIR,—Will you kindly oblige me by laying this letter before the Council, R.C.V.S., at its next meeting.

In the report of the meeting of Council held on November 28th last, which I have just perused, I find it stated by Mr. J. A. W. Dollar, with regard to the Registration of Shoeing Smiths, that the examinations I had conducted on behalf of the Farriers' Company were a fraud on the public, the men being examined for five minutes in a little underground office at Laurence Pountney Hill, and after a few questions, occupying not more than five minutes, received their certificates, and were sent forth to the world as registered shoeing smiths.

I am desirous of assuring the Council that there is not a word of truth in the statement that I examined men in a little underground office in the locality named, and that the examination did not occupy more than five minutes. I never examined in an underground office there or anywhere else, and I never satisfied myself that men were competent, according to the standard agreed upon, in five minutes. The mode and duration of the period of examination of shoeing smiths, as carried out by me, was that fixed by a Sub-Committee of the Worshipful Company of Farriers, I believe, and followed by the other Veterinary Examiners. The time was certainly never less than fifteen or twenty minutes, and it frequently extended over half-an-hour, the time being kept by the Assistant Secretary of the Company, who also arranged the examinations. No candidate was ever passed for registration who was deficient in the amount and kind of knowledge it was deemed necessary he should possess. The statements can be corroborated by those who are in a position to know; and my assertion as to the place and time of examination will be vouched for by the Worshipful Company of Farriers, and those officials who were present.

Such unfounded statements as those now made by Mr. J. A. W. Dollar, when made elsewhere, I did not notice, as they and the people who uttered them were beneath contempt; but when they are brought before such a body as the Council of the Royal College of Veterinary Surgeons, then I consider they ought at once to be contradicted, and the motives which prompted their utterance condemned. Their object is sufficiently evident to warrant the term, "discreditable," being applied to them; and among gentlemen, such a slanderous accusation as "perpetrating a fraud upon the public," without a shadow of fact to support it, would justly merit and promptly receive punishment. Such charges were never preferred by members of Council during my long experience of its business, nor would they have been endorsed by any president, and I may express the hope that the present Council will not identify itself with such dishonourable conduct. I beg to request that this formal and categorical denial of such a damaging and untruthful accusation, may receive the same publicity in the reports of the proceedings of the Council as it has now obtained; and I ask this not only in justice to myself, but in common fairness to the Worshipful Company of Farriers, whose efforts to improve the art and position of horse-shoers deserves something better than misrepresentation and detraction from interested people.—I am, dear sir, yours truly, (Signed) GEO. FLEMING.

P.S.—I have just reason to complain of the conduct of the President of the

Royal College of Veterinary Surgeons, as, if the report is correct, he endorsed Mr. Dollar's slanderous statements in the most marked manner, knowing perfectly well they were absolutely untrue.—G. F.

THE EMPLOYMENT OF LAYMEN AS VETERINARY SURGEONS.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—The appointment by the Government of laymen to perform the duties connected with the prevention and extirpation of contagious disease among our flocks and herds, to the exclusion of professional men who, protected by Act of Parliament, have been educated, examined, and declared by thoroughly competent examining boards to be capable of dealing with the diseases of the lower animals, is, to say the least, an extraordinary state of matters. When we take into consideration the fact that these laymen, having no veterinary medical knowledge, supersede gentlemen of undoubted ability, of great experience and knowledge of all that pertains to the lower animals in health and disease, the anomaly seems to be inexplicable.

It cannot be denied that the measures adopted of late years to stamp out pleuro-pneumonia contagiosa have been successful, and it may be urged by those laymen and their supporters that their success has fully justified their appointments, and their continuance to hold them. Our profession, however, is fully cognizant to whom the credit for the successful issue is due. The purely veterinary element of the so-called Veterinary Department of the Board of Agriculture is wholly entitled to that credit; but, judging from the actions of the Board of Agriculture, it is claimed by these laymen. These gentlemen have merely carried out the details of a scheme—work that should have devolved on members of the veterinary profession. I consider the authorised interference of laymen, and the power given to them to meddle with the life-work of the members of a liberal and legalised profession, to be a deliberate and disgraceful insult flaunted in its face.

I do not know if the rumoured appointment of Major Tennant to be the head of the Veterinary Department is an accomplished fact, but, should it be so, and we meekly submit, we throw our profession back 50 years, and deserve all the ridicule that will be showered on us.

Our Army Veterinary Department is headed, and that with splendid results, by the Principal Army Veterinary Surgeon. We civilians will now be asked to obey the dictates of a Principal Civil Veterinary Surgeon, who ("Tell it not in Gath, publish it not in the streets of Askelon!") is not a veterinary surgeon, neither does he possess any veterinary knowledge. This sounds absurd, but the facts remain.

Alas! we are driven to the unhappy conclusion that the present Government, as represented by the Board of Agriculture, has no confidence in us as a body of scientific men. We are forced to conclude that we are considered unfit to carry out the work that is entrusted to lay travelling inspectors; that the extent of our professional knowledge is not sufficient to enable us to differentiate between specific and innocuous diseases in the lower animals.

Then, why, in the name of all that is just and reasonable, does not our Government step in, and, by means easily understood, improve our education; in fact, give us more light. All other ruling powers of civilised countries have fostered veterinary education, much to their benefit, while the education that has been diffused throughout Great Britain and Ireland, during the past hundred years, has been the work of a few brave and talented men who have taught the science single-handed and unaided by any Government.

How glorious a field is opened out for a paternal Government in which to exercise its wise beneficence. In these Islands, on the one hand, we have the finest breeds of sheep and cattle in the world, representing an interest of the

first importance. On the other hand, we have a body of men, considered, to put it simply, not educated to a standard that qualifies them to be entrusted with their complete control on the appearance of disease.

Our present Government, true to its name of Liberal, deserves a meed of praise for its liberality; but, occasionally, that liberality seems to be limited by geographical boundaries. A sum of £15,000 has been, or is to be given, to Ireland, towards the institution of a veterinary college in its capital. We cannot and do not object to this grant, but how misdirected is this extension of benevolence at this time. The existing teaching schools are annually turning out scores of practitioners, from whom the country would reap an immediate benefit, were the resources of a higher scientific education made available to them than that which private enterprise can afford to them. I fear that many years will elapse before Ireland will give value for the £15,000 granted to it. I would respectfully suggest to the veterinary advisers of the Government that they should recommend that educational grants be made to the veterinary colleges, as the wisest and most sure method of relieving the strained position of affairs veterinary, and a line of action that would prove to be a boon to the nation.

I am strongly of opinion the veterinary profession does not deserve such scant courtesy as is bestowed on it by the Board of Agriculture, *audi alteram partem.* To whom is the credit due for the comparative immunity from many diseases that once stalked rampant through the land among our equine, bovine and ovine charges? It is due to the practice of enlightened veterinary science by veterinary surgeons. Turn back the pages of veterinary history some thirty odd years, and note the record of the disastrous calamity experienced throughout the length and breadth of the land from that dread disease, rinderpest. One of our profession warned, advised, nay, implored, the Government to shut the gates. His advice was not followed. The disease was allowed to enter the country, the Government then, as now, attaching but little importance to the opinion of a veterinary surgeon. Had his advice been taken, even after the admission of the disease among us, millions of money would have been saved to the country, and the ruin of many agriculturists averted. That veterinary surgeon was the late Professor Gamgee, whose disgust with the injustice meted out to him by the Government then in power, partly induced him to relinquish the practice of his profession and take to other scientific pursuits. Briefly, I contend that we have been of some benefit to the country, and that the immediate and energetic action of the profession, *en másse*, is called for to protect our interests. The lamentable apathy that prevails among us must be shaken off. Like man, so profession, unless he or it respects himself or itself, neither can expect to be respected. Consider the likelihood of the medical profession submitting to any lay interference with the practical work of any measure designed to protect human beings from disease, and look to our scandalous treatment as regards our patients. I am much gratified to find that some of our veterinary societies are taking action. The Central Veterinary Medical Society, having among its members many of the leading men in the profession, has elected a committee to right our wrongs, if it is possible to do so. Resolutions have been framed, appealing to sister societies for their co-operation. The influence of Members of Parliament and leading agriculturists is to be invoked, while the Royal College of Veterinary Surgeons, I feel assured, will give every assistance. We must assert ourselves, and, shoulder to shoulder, overcome the colossal injustice that is being perpetrated on our profession. Each member of the profession possesses a certain amount of influence, which should be brought to bear on this all important matter on the lines indicated by the Central Society, "United we stand, divided we fall."—I am, Sir, yours faithfully, PETER MOIR, M.R.C.V.S.

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J. MACQUEEN, *Hon. Sec.*

Royal Veterinary College, London, *February 20th*, 1895.

SUMMARY OF RETURNS UNDER CONTAGIOUS DISEASES ANIMALS ACT.

Period.	Pleuro-Pneumonia.			Swine-Fever.			Anthrax.		Glanders (including Farcy).		Rabies.	Foot-and-Mouth Disease.	
	Number of Cattle Slaughtered.				Number of Swine Slaughtered.								
	Diseased.	Having been in Contact.	Suspected.	Number of Swine Died of Swine-Fever.	Diseased or having been exposed to Infection.	Suspected.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.	Number of Diseased Animals Killed or Died.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.
Week ended January 26, 1895	..	..	..	123	511	18	11	16	14	21	16	..	..
Corresponding week in 1894	..	..	3	113	957	14	19	42	18	26	8	..	..
Corresponding week in 1893	..	..	2	82	161	..	11	46	37	65	2	..	..
Corresponding week in 1892	2	36	6	76	191	..	5	11	33	63	..	..	..
Total for 4 Weeks, 1895 ..	..	..	1	439	1979	58	38	67	71	132	56	..	..
Corresponding period in 1894	..	..	5	498	3662	59	56	117	95	135	13	..	..
Corresponding period in 1893	..	..	7	431	801	..	35	92	112	204	9	1	6
Corresponding period in 1892	28	317	18	379	811	..	21	32	118	216	1	..	..

NOTE.—The figures for the current Year are approximate only.

Board of Agriculture, 1*st February*, 1895.

Notes and News.

Salt on Frozen Streets.—In the House of Commons, Mr. Crombie asked the President of the Local Government Board whether he was aware of the injury done to horses and dogs by salt being thrown on the streets to melt the snow, especially in provincial towns with tramways; and whether the Local Government Board could take any steps to prevent it? Mr. Shaw-Lefevre said there were many districts where the local authorities had made bye-laws under the Public Health Act, 1875, with a view of preventing nuisance from melted snow on footpaths; and in London bye-laws had in many districts been made under the London Public Health Act of 1891, which applied to the carriageway as well as to the footway. He had no power to compel the making of such bye-laws by the local authority, or their enforcement when they had been made. Answering a similar question with respect to Scotland, Sir Geo. Trevelyan said that if such a practice prevailed, amounting to a public nuisance, the street authorities had general powers wide enongh to deal with it. He did not propose to introduce legislation on the subject.

Honour to Mr. Clement Stephenson, F.R.C.V.S., Newcastle-on-Tyne.—In the annals of our profession a more remarkable event, connected with one of its members, has never been recorded than that reported in the columns of the *North British Agriculturist*, of date February 20th. On the evening previous, the above-named gentleman was entertained to a banqnet in his honour held at Perth, presided over by His Grace the Marquis of Huntly, supported by Sir George Macpherson Grant, Colonel Smith Grant, of Aucherachan, and Mr. William Whyte, of Spatt, as croupiers. A large company, comprising the most prominent agriculturists in the North of Scotland, was assembled. The noble chairman, in the course of a deservedly eulogistic speech, referred to the eminence as a veterinary surgeon attained by Mr. Stephenson. He congratulated him also as being one of the first Englishmen who had crossed the border to purchase the best Aberdeen Angus cattle, a breed that he had demonstrated to the world by his exhibits could not be surpassed. We heartily congratulate our old friend Mr. Stephenson that the talent as a veterinary practitioner and a breeder of high class cattle he has so long given unmistakable evidence of, should have elicited so great an honour as that above recorded.

Pleuro in Canadian Cattle.—In the House of Commons on Tuesday evening, Mr. Gardner, in answer to a question, stated that three animals had been landed at Antwerp from Canada suffering from pleuro-pneumonia, and that in consequence the importation of cattle from Canada into Belgium had been prohibited. Writing with reference to this matter, the *Canadian Gazette* says:—"While Mr. Gardner was about it, he might have made such inquiries as would have enabled him to enlighten the House of Commons a little further than he did when asked as to the Canadian cattle question on Tuesday evening. Many members of the House who believe in free imports would have been glad to know that the High Commissioner has heard from Canada that all the animals in the cargoes in which the one serious case of suspicion at Antwerp was found, have been traced to their places of origin without the discovery of the slightest trace of contagious pleuro-pneumonia. They would also have been interested to learn that Professor Nocard, the world-famed specialist, has had under investigation a piece of the lung of the suspected animal, and is unable to say that the disease is pleuro-pneumonia—indeed, he throws considerable doubt upon the suspicion. There is no veterinary surgeon in the world who would say that pleuro-pneumonia could remain latent in any country for four or even two years."

CATTLE POISONING IN INDIA.—"For years past," says the *Times of India*, "a mysterious form of cattle poisoning has baffled the analytical resources of the chemical authorities, and defied the investigations of the police. The cattle are found dead, with all the symptoms of poisoning, but with no trace of any foreign substance, with the exception of a small piece of rag which is generally found in the rectum. The pieces of rag have been subjected to the closest tests for poison, but none has ever been discovered; and the late Dr. Norman Cheevers, in his manual of 'Medical Jurisprudence in India,' went so far in alluding to these cases as to refer to the suspicion attaching to pieces of rag as an example of the ignorant suspicions of the peasantry. But the peasantry were in the right, after all, as they often are, for Mr. Hankin has discovered in the rags traces of the most virulent of all animal poisons, the venom of the poisonous snake. Failing to detect poison by the ordinary tests, Mr. Hankin boiled a piece of the suspected rag in nitric acid, and when the liquid assumed a yellow tint he came at once to the conclusion that the colour change was due to the presence of proteids. He injected a small quantity of the watery extract of a square inch of rag into a rabbit, and the animal died in five minutes, with all the symptoms of snake poisoning. By other tests he found that the rags were actually treated with an intensely active proteid poison, in all respects exactly identical with snake poison, and, with the help of Sir Joseph Fayrer, he was able to ascertain the method of its extraction. A cobra, it seems, is confined in a chattie, underneath which a fire is lighted. Irritated by the heat, the cobra becomes violent, and, a plantain being then put into the chattie, the reptile bites it, depositing its venom in the fruit. Portions of the venom-impregnated plantain are then spread on the rags, which thus becomes a powerful and hitherto undiscoverable engine of destruction. The rag is used because if the impregnated plantain were eaten by the animal, the effect of the poison would be nullified by the natural acidity of the stomach, and the method adopted, owing to the absorbent properties of the mucous membrane, is precisely as effective as subcutaneous injection. A microscopical examination of some of the pieces of poisoned rag sent to Mr. Hankin for analysis revealed the presence of a whitish putty-like substance, possessing exactly the same characteristics as crushed and dried plantain pulp, so the mystery may at last be taken to have been solved."

Communications, Books, Journals, etc., Received.

BOOKS AND PAMPHLETS: We have received from the publishers, Messrs. J. B. Baillière et Fils (Paris), an interesting work by Alfred Gallier, sani ary inspector of the town of Caen, on "Médecine Légale Vétérinaire," which we shall review at length in our next number.

LETTERS AND COMMUNICATIONS received from Dr. A. J. Haslam, F.R.C.V.S.; Veterinary-Captain J. H. Nunn, F.R.C.V.S., C.I.E., D.S.G.; Dr. Fleming, C.B.; R. Cockburn, Esq., M.R.C.V.S.; A. W. Lawson, Esq., M.R.C.V.S.; F. C. Mahon, M.R.C.V.S.; Frank Somers, Esq., M.R.C.V.S.; Peter Moir, Esq., M.R.C.V.S.; Yorkshire Veterinary Medical Society; Central Veterinary Medical Society.

JOURNALS, ETC.: *La Presse Vétérinaire, Annales de Médecine Vétérinaire, Report on Abortion by Special Committee of Royal Agricultural Society of England, Preliminary Announcement of California College of Veterinary Surgeons, Recueil de Médecine Vétérinaire, L'Echo Vétérinaire, North British Agriculturist, Veterinarian, Horticultural Review, Report from University Pennsylvania Press, etc., etc.*

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

APRIL, 1895.

ESSAY ON DISEASES COMMUNICABLE FROM THE LOWER ANIMALS TO MAN.*

BY MR. R. PEECH.

MR. CHAIRMAN AND GENTLEMEN,—The subject I wish to bring before your notice this evening is one of considerable interest to the veterinary surgeon, and I may state of no less importance, viz., "Diseases Communicable from the Lower Animals to Man." This subject, I need hardly say, should entertain the careful study of all veterinary surgeons, as he has a solemn and most trustworthy mission on this earth to fulfil, and let him consider the sacredness of his position and do his duty towards his fellow-beings. With these few introductory remarks we will now pass on to consider the diseases in detail.

The first one I wish to bring before your notice is that malignant and most fatal disease, anthrax.

Anthrax is a specific, contagious, malignant disease affecting all animals, even fishes and man, and is due to the entrance into the animal economy of an organism, known as the Bacillus anthracis. This disease among cattle is better known as splenic fever, or splenic apoplexy. This disease is of extreme interest not only to the professional man and agriculturist, but to everyone, from whatever standpoint it may be studied. Although most animals are subject to the ravages of this disease, the pig, dog, and cat are somewhat unsusceptible to it. But the malady has been seen in the dog which has partaken of the flesh of animals which have died from the disease. Indeed, Koch has shown that the spores of

*Read before the Edinburgh Veterinary Medical Society.

the germ of this disease can readily cause infection by finding their way into the alimentary canal. This fact is of importance, as showing that the flesh of an animal dead from this disease is unfit for human consumption, and should, therefore, be prohibited from being sold. The Bacillus anthracis is perhaps the best known of all the specific infective bacilli. It is compared with other pathogenic organisms of a considerable size, measuring in length 5μ to 20μ, and in breadth 1μ to 1·5μ. It multiplies with very great rapidity in the blood of certain animals, and may be very easily cultivated outside the body; in consequence of these features it was the first organism which was proved definitely to be associated with a specific disease, and it was certainly the first to be recognised as occurring in both animals and man. To demonstrate the organism, a drop of blood is taken from the spleen of an animal that has died from this disease and spread out between two cover glasses; these are then separated, and one of them is at once lowered on to a drop of three-quarter per cent. solution of salt, the other set aside to dry, after which it may be gently heated in the flame of a spirit lamp, and then stained in a watery solution of methylene blue, well washed in water and alcohol, and mounted in glycerine. In the unstained specimen there will be found lying between the red blood corpuscles a number of short rods, each of which has slightly rounded ends. In the stained specimen the centre of each rod appears to be quite homogeneous, and is usually deeply stained; around this is a kind of sheath, which remains unstained.

As regards the size of the bacilli it may be observed that they vary not only in length (in the same animal), but that they are of different breadths according as they develop in one species or in another, those found in the guinea-pig being thicker than those in the mouse and sheep, whilst those in the rabbit are thinner than those above-mentioned.

If one or two of these bacilli be placed in a drop of nutrient broth, and the temperature be kept at about 37° C., and observed under the microscope, the first change noticed, is that the rods increase in length, until they ultimately cover a whole field of the microscope; then a large number of very minute points make their appearance, then it will be noticed that instead of a single thread, little bundles of the same long threads make their appearance, in which they are found, at pretty regular intervals, the highly refractile bodies with well-defined margins and sheaths known as spores. When the spores occur in the long threads, there is usually a slight enlargement at the point at which the spore is situated, and

this, with the bright shining point, gives to the spore-bearing threads an appearance like a chain of pearls. This organism cannot multiply at a temperature below 16° C., nor above 45° C., 30° to 37° C., being the best temperature. It is distinctly ærobic in its growth, and cannot develop unless it can obtain a pretty free supply of oxygen.

Spores are never developed in the bacillus that grows in the blood, the multiplication there being entirely vegetative in character, and being due to fission or division of the rods as they increase in length. The same thing holds good even in the dead body so long as it remains intact; when once, however, the blood is allowed to come to the surface and in contact with oxygen, spores are very rapidly formed within the bacilli.

Koch says, spore formation will not take place below 18° C., and then only in the presence of oxygen.

The bacilli as distinguished from the spores are very readily killed.

The ordinary putrefractive processes that are undergone in the decomposition of a carcase in which these organisms have been present during life, especially if the air be excluded, cause the death of these bacilli in about a week.

The temperature of boiling water maintained for a few minutes kills the bacilli, but boiling for ten minutes is not to be relied upon to kill the spores.

The bacilli are killed by a two minutes' exposure to a 1 per cent. solution of carbolic acid, whilst the spores may remain alive for a week in a similar solution. They must be kept for nearly a week in a 3 per cent. solution, if this re-agent is to have any lethal affect on them.

Corrosive sublimate in one in a thousand of water, s ffices to kill spores by simply wetting them. The spores will withstand a temperature of 100° C., if continued only for a short time, and start into life and into active vegetative growth when placed under suitable conditions.

The only physical condition that appears to be fatal, or at any rate injurious, to anthrax spores is strong sunlight; this appears to deprive them in whole or in part of their power of further development in a most remarkable manner, always causing distinct attenuation of their pathogenic virulence before completely destroying them. The best way of maintaining cultures of anthrax bacillus is to take a drop of anthrax blood, sow it on a potatoe or agar-agar, allow it to grow there for several days at about 30° C., until spores are well developed, triturate a small quantity of the growth with

some distilled water, place a number of silk threads which have been previously well sterilized in this mixture, and then dry them carefully; cut into short lengths and keep them in a well-stoppered bottle. From these threads cultivations may be made on almost any artificial nutrient media, such as starchy materials, vegetable infusions, hay and meat infusions, the only thing that appears to interfere with their growth being an acid reaction.

The usual mode of infection in man, of course, is by the skin known as "malignant pustule;" this form chiefly affects butchers, etc. From one to three days after inoculation there is irritation set up at the point of inoculation; about a day later a minute vesicle surrounded by a zone of inflammatory redness and sweating makes its appearance. The vesicles then form pustules and these are followed by an extensive black scar. If these pustules be exercised with the surrounding tissue, and the wound well cauterized with carbolic acid, there may be no return of the disease; but if the inflammation be allowed to go on unchecked, until a considerable area is affected, the bacilli make their way into the blood-vessels and give rise to general anthrax. Tanners, skin-dressers, and wool-sorters are also liable to this disease, though they are more frequently affected through the lungs. In some regions where the disease seems to be endemic, the spores of the bacillus make their way into the alimentary canal of the human being and other subjects, through the medium of the food and water.

It has been found that if the bacillus is taken by the alimentary canal the acids contained in the stomach usually destroy it. If, however, resistant spores make their way into the alimentary canal, they may pass untouched through the stomach and so into the alkaline contents of the intestines. At the body temperature they are then under very suitable conditions for development into the vegetative form; and as they are developed they make their way, especially through damaged epithelial cells which they gradually push to one side, into the deeper layers of the intestinal wall, into the lymph channels, or directly into blood vessels, so give rise to general anthrax. In the lower animals, if dead from anthrax, the best way to get rid of the infection is to burn the animal at once, or to bury it deep in the earth.

The carcase should be buried at least seven feet deep, as it is a well known fact that the organism cannot form spores where oxygen is absent, and at a temperature below 12° C., and below this temperature the bacilli are incapable of exist-

ing for any length of time. At a distance of seven feet from the surface of the ground, the temperature is usually below 12° C., so that, even if swarming with bacilli, cannot be looked upon as a centre of infection. In order to get rid of any spore-bearing bacilli, all discharges or blood that may have escaped, should be carefully disinfected with five per cent. of carbolic acid.

The next disease I intend to say a few words about is glanders. *Glanders* is a malignant, contagious and fatal disease, due to the introduction into the animal body of the *bacillus mallei* which, infecting the whole system, shows specific effects more especially upon Schneiderian mucous membrane, lungs, and upon the lymphatic glands and ducts. It affects the horse, ass, and mule, in which it is said to arise spontaneously, and is capable of being transmitted to sheep, goats, dogs, feline species, and even man; in the latter the virus seems to increase its virulency. Cattle, pigs, and fowls resist the action of the contagium, even when inoculated.

Professor Coleman demonstrated that the disease was communicable from man to the ass, by means of the following experiment. He inoculated two asses with matter taken from the arm of a man labouring under the malady, which resulted from a puncture received while dissecting a "glandered" horse. Both asses died of glanders. The bacilli mallei is from 2·5μ to 5μ in length, and about one-fifth minus one-eighth of their own length broad. It is usually straight or slightly curved, is rounded at one end; in fact, the only difference between this bacillus and that of tuberculosis is, that the mallei is slightly shorter and perhaps thicker than the tubercle bacillus. It exhibits no movement. The first attempt to cultivate this bacillus was made by Schultz in 1882. He took small particles of the grey material surrounding the caseous centres of some of the nodules in the lungs, liver, spleen and lymphatic glands of a glandered horse. These were broken down, were inoculated on fluid and solid blood-serum from the horse and sheep, and also in broth made from the flesh of dogs, and even in various fruit and vegetable infusions. For two days no indication of the presence of any growth could be observed on any of those media, but on the third day the fruit infusion became slightly turbid, and on the gelatinized serum there appeared numerous small, clear, yellow, slightly elevated drops. In eight or ten days these became cloudy or milky. On examining one of these drops under the microscope it was found to consist entirely of masses of short, rod-like bacilli, similar to those in the glanders nodule.

The bacillus shows best at a temperature of 37° C.; it will not grow at 20° C., nor at 45° C., at the other extreme. At a temperature of 25° C. it flourishes most luxuriantly, although it rapidly loses its virulency when cultivated for several generations outside the body.

Löffler points out that glanders is essentially a disease of hot countries, where the comparatively high temperature appears to be extremely favourable to the development of the bacillus outside the body, especially in such materials as fodder, manure, and stable refuse.

The process of putrefaction seems to help greatly in preventing the multiplication of this bacillus. The most satisfactory of all disinfectants is heat at a temperature of 55° C., continued for 10 minutes only, is sufficient to destroy the bacillus, and with it the infective power of the virus; no spores probably are formed to perpetuate the species.

Chlorine and carbolic acid are both capital disinfectants, so are permanganate of potassium and corrosive sublimate. By means of any of these the process of disinfection may be carried on in stables in which glanders has occurred.

The best way to demonstrate the bacillus is as follows:—Take a small particle from the central part of a nodule and squeeze it out between two cover glasses, draw them apart, pass it through the flame of a spirit-lamp, and then stain in Zie-Niellsen's carbolic fuchsin or carbolic methylene blue, and then decolorize the tissues with distilled water, or with a 2 per cent. solution of hydrochloric acid.

In the human subject inoculation may take place through wounds or scratches, or through the application of the nasal discharges of a glandered animal to the mucous membrane of the nose or mouth. In man this disease usually takes on the form known as farcy. The skin is inflamed, nodulated, and ulcerated abscesses are found in the muscles. In fact, in man the disease takes on the inflammatory character more distinctly than in the horse; nodules, ulcers, and abscesses are formed in the internal organs, causing the disease to simulate pyæmia.

I shall now pass on to a subject of which, perhaps, there is none of greater importance in the whole range of pathology. Need I say I refer to tuberculosis. So highly important is this disease, and so intimately do all questions connected with it in oxen bear upon the welfare of the human being, owing to their liability to become affected with it, that I should particularly have liked to have thoroughly overhauled the disease; but I am afraid in a short essay of this descrip-

tion, where one has so many diseases to touch upon, it is an impossibility, so shall content myself with a few remarks on this important disease. Tuberculosis is an infective disease in which the tissue changes are due to the action of a specific virus, viz., tubercle bacillus.

This disease is unfortunately quite commonly met with in human beings, oxen, and monkeys. The oxen over the entire surface of the globe seem to be affected with it, doubtless one of the great causes being the in-and-in breeding. Sheep and pigs seem to be very rarely affected with tuberculosis. In solipeds it is not often seen, and in carnivorous animals almost unknown. In the human being, this disease is one of the most widespread and deadly diseases with which we have to deal.

Tuberculosis and phthisis or consumption account for such an enormous percentage of deaths, that the subject has come to be one of intense interest, not only to physicians and surgeons, but to all well-educated people; and the subject of the treatment of tuberculosis is, unfortunately perhaps for patients, taken up by almost all the daily papers.

It has long been known that tuberculosis was an inoculable disease, but it was only quite recently (1883), that Koch was able to demonstrate that a specific organism could be separated from tuberculous tissue and cultivated outside the body, and that when inoculated into certain animals, this organism was capable of producing tubercular disease, and the organism demonstrated in the new tubercular growth.

Zie-Niellsen's process for staining the bacillus is as follows :—Take a cover-glass preparation, then immerse it in in his fuchsin solution heated for five to ten minutes, then pass it through alcohol, decolorize in 25 per cent. of sulphuric acid, and afterwards stain in methylene blue. The resulting stain being perhaps brilliant and more permanent than that obtained by any other method. The tubercle bacilli when stained are delicate rods 1·5 to 3·5μ in length and about ·2μ in thickness, though these dimensions are by no means constant even in the same preparation. They are usually slightly curved, or two are arranged end to end so as to contain an angle. From two to six spores may frequently be seen in these rods; the spores occurring as small, rounded clear spaces placed at intervals in the stained bacillus.

The bacillus is non-motile. The association of this organism with tubercular disease is undoubted. It is found in the lungs and sputum in various forms of consumption. It is found in tubercular ulcers in the intestines, in tubercle of liver, and all other organs of the body.

Koch, having found the tubercle bacillus almost invariably accompanying tuberculous disease, to complete his proof, wished to separate the organism in the form of a pure cultivation, in order that he might study its life-history, and determine whether the organism when introduced alone into the animal body, could give rise to tuberculosis. This, at length, was accomplished. He argued that as the tubercular process developed slowly, he would have to obtain a media which would remain unaltered for a considerable length of time when placed in a temperature at which the organism could grow and multiply. He ultimately found that solidified blood serum was by far the best medium on which to cultivate it as it alone supplied all the requirements of the organism. A cultivation of this organism through 70 generations continues to act on animals in the same way as the original or first culture.

The bacillus grows only on the surface of a fluid, forming a delicate, thin film, the organism being essentially ærobic in its habits. A certain amount of moisture is absolutely necessary for the growth of the bacillus, and Pawlowsky was able to cultivate it, even on potato, when he kept a considerable quantity of moisture in contact with the growing organism.

As regards temperature, it was found that, although there was an actual cessation of growth and development below 28° or 29° C., on blood serum the organism might be exposed to very low temperature for a considerable length of time without losing its power of again becoming active when returned to a suitable media. It grows best at about 37° C., but as soon as the temperature rises beyond 38° C., the development of the bacillus begins to diminish in activity, and at 40° C., it ceases entirely to grow and multiply. It will be noticed that the temperature at which it develops best, is exactly that of the human body, viz., 37·8° C.

Klein finds it is possible to inoculate successfully tubercle taken from the human subject, also that it is possible to inoculate from a guinea-pig to a cow, but when inoculation is made from a cow to a fowl the experiment breaks down, and there is no tubercle produced, so that, not only can one modify the activity, and the power of growth of these bacilli outside the body by altering the temperature at which they grow, but it is also within the range of possibility to modify the bacilli by introducing them into different animals, whose normal temperature and other general metabolic conditions are different.

This modification has more than normal value, for it has been proved experimentally that, although the organisms in man and bovine tuberculosis are morphologically identical, they are not absolutely the same in all their vital and pathogenic characteristics. For instance, tubercle bacilli taken from a phthisical patient and introduced into the tissues of a cow will soon set up an acute general tuberculosis, whilst bacilli taken from a case of ordinary bovine tuberculosis invariably give rise to the same disease, and never to the acute generalized form.

Koch pointed out that the tubercle cultures from fowls were quite distinct, and could not be passed on as such from animals to animals of different species, or by growth at different temperatures, and he concludes that although nearly related to the ordinary tubercle bacillus they are specifically distinct. Some of the earliest experiments from which actual proof of the infective nature of tuberculous material was obtained, were those made by Gerlach and Chauveau, who used the milk of tubercular cows to feed young animals; though tuberculosis was not produced in every case, the former was successful in sufficient number to justify his conclusion that there was some specific virus in the milk of tuberculous cows which could, when ingested, produce tuberculosis of the alimentary tract, or of the glands associated with it.

(*To be continued.*)

AMPUTATION OF DOG'S PENIS—RECOVERY.

BY JOSEPH H. CARTER, F.R.C.V.S., BURNLEY.

On Monday, February 25th, I received a message to visit Nelson, some four miles away from Burnley, to see a dog (a fine retriever). Being unable to go myself, my pupil went in my place, and reported upon his return a case of paraphymosis, gave the necessary instructions in such cases, promising to re-visit the following day.

On Tuesday, February 26th, I made a personal visit, and only just in time to save the poor brute from an untimely end, for the dog was securely tied to the trunk of a tree, and the grave close by was already prepared to receive his carcase, the owner only awaiting the arrival of the gun. After carefully examining the protruded mass, and the case being one of unusual interest, I prevailed upon the owner to spare the dog's life, to which he readily assented, if there was any probability of curing him, as the dog was a great favourite. I then gave instructions as to his immediate removal to my

infirmary. The man was somewhat diffident about bringing him, and no wonder, when I say the penis was some seven inches out of its sheath, enormously swollen, cold and clammy, and most offensive. I soon overcame this difficulty, when I advised him to wrap the pendulous mass up in a little lint, supported with a broad cotton bandage carried around the body and tied above the loins, and so hiding it from the public gaze. The animal was put upon the tram and immediately dispatched, without anybody being the wiser as to his ailment.

The dog arrived at my place about five o'clock in the afternoon. I then set to work to reduce the parts as much as possible by continuous fomentations, and at the same time drawing gently upon the sheath or prepuce. After some considerable time I was successful in reducing it, perhaps, four inches, but was greatly hindered by continuous priapism. I persevered with my task for a few days, but was only successful in reducing it some four inches in all, leaving about three inches protruding, which I found impossible to return, dressing and syringing the parts two or three times a day (after fomentations) with carbolised oil, iodoform and eucalyptus oil. The swelling now became alarming; the dog was very dull and dejected, and seemed to be suffering great pain, refused all food, and when made to move walked with a very stiff gait and back arched; the swelling increased and extended right up the perineal region, and was very hard, unyielding, hot, and painful upon manipulation, and somewhat resembled a huge tumour. Pulse and temperature at this time very high. I continued with hot water fomentations and poultices, and administered Pot. Bromid., with the idea of relieving the pain and also the priapism, and administered tonic pill, containing quinine, three times per day. The bowels being confined, gave a little laxative medicine, and inserted a suppository, containing 40 minims of glycerine, with the desired effect.

March 4th.—Dog much about the same; unfortunately during the night got at the protruded parts with his teeth, and gnawed that part immediately in advance of the external opening of the prepuce; the part in advance of the gnawed portion, including the glans, was undoubtedly becoming gangrenous. I could plainly see there was only one thing to be done now if his life was to be spared, viz., that of amputation, and this must be done without delay. So immediately made all preparations, had the dog brought into the surgery, and carefully placed on his off side, washed the parts antisepti-

cally, placed on the chloroform muzzle, and soon had him in a state of anæsthesia.

I now drew back the prepuce as far as the swelling would permit, and made my incision a little behind the line of demarcation, and immediately in advance of the anterior extremity of the os-penis. The hæmorrhage to my surprise was only slight, and required no styptic dressings to arrest its flow, so merely applied a little antiseptic lotion to the excised parts. I now drew the prepuce well forward in advance of the cut end of the penis, and inserted a silk suture at its external orifice. The operation over, he was now placed near the door and in a few minutes came from under the influence of the anæsthetic. He was now carefully walked back to the stable and placed on a clean bed of straw, and his head fastened up to prevent any further mischief with his teeth.

I went to have a look at him before retiring to rest, and removed the suture; the animal had eaten nothing for three days past except what was put into him by force.

March 5th.—Much about the same; no appetite; later in the day I had some "Mellin's Food" prepared and bottled this into him without wasting a drop. I looked at him again last thing at night, and took him a basin of the same kind of food, which to my surprise and delight he took of his own accord, and seemed much brighter; I now offered him some biscuits, which he took out of my hand.

March 6th.—Dog sitting up, and greeted me with a wag of his tail, and seemed quite cheerful, and had finished his trough of biscuits during the night. I now placed him on his side to foment and dress his sheath, when I beheld it had burst in two places immediately in advance of the testicles, and was discharging profusely a dirty unhealthy (so-called) pus; the swelling considerably reduced, and not nearly so tender to the touch; syringed and dressed the parts antiseptically.

I have continued this treatment up to the 12th of March, and since that date only now and again cauterised the wounds with As NO 3. The dog is now convalescent, and was discharged this, the 16th day of March.

In conclusion, I may say the dog has never seemed to experience any difficulty in the act of micturition since the operation.

PLEURO-PNEUMONIA OF THE HORSE.

THE following case of pleuro-pneumonia in the horse is recorded with a view to showing how little reason there is in

many such cases to indulge in heroic treatment, and especially to point out that the application of strong counter-irritants to the sides and throat, and the exhibition of repeated doses of alcoholic stimulants so frequently indulged in, are unnecessary, if they are not positively harmful.

On February 27th, a bay gelding, six years old, the property of Mr. Abbey, contractor, Edinboro', was seen and presented the following symptoms:—scraping with the fore feet, twisting the tail, looking round at the flanks, great uneasiness and showing other evidences of pain. The extremities were cold while the body had patches of perspiration on it. Temperature 103°, pulse 70, with a full artery. There were frequent attempts at micturition.

The animal was back-raked and the rectum was found to be nearly empty, containing only a few hard mucus-covered pellets. Enemas were administered and a sedative draught given, which a few hours after was repeated with the result that the pain was relieved.

The diagnosis at this stage was by no means easy, for although the breathing was somewhat embarrassed and there was a slight cough and discharge from the nostrils, there was nothing about the horse to point to the very serious condition that afterwards developed. During the next day the pulse rose to 100, and temperature 105°; the breathing was greatly accelerated and for the most part abdominal.

On auscultation the right lung was found to have a patch of consolidation near the base. The diagnosis was now certain, and without detailing all the symptoms that followed, both sides of thorax becoming affected, it will suffice to say that it proved a well-marked case of pneumonia with pleurisy, the temperature for several days being 106°, the pulse sometimes imperceptible; the appetite for three days being entirely in abeyance and the animal although in pain never lying down.

The treatment consisted in placing the patient in a good well-ventilated box, having his body well clothed and the legs bandaged. During the first few days pain was occasionally shown and was speedily relieved by anodyne draughts and hypodermic injections of morphia. When the difficulty of breathing caused great distress, hot blankets were applied to the chest and back, followed by the application of a mild ammonia liniment. To relieve the great depression carbonate of ammonia in balls was given three times a day. He also received draughts at intervals, composed of spirits of nitre, tincture of cinchona and pot. iodid.

No horse could show more distressing symptoms or appear less likely to recover than this animal did on the fifth and sixth day of his illness. The swaying body, at times resting the quarters against the wall, the hocks being locked together to afford support, pointed to the profound debility to which he was reduced. The emaciated condition, the painfully embarrassed breathing, accompanied by groaning, the absence of pulsation in the arteries, the metallic tinkle of the heart-beat, all made up a condition which hardly justified one giving any hope to the owner, or in being sanguine that one would get a favourable termination to the case. On the eighth day, however, the crisis came; the temperature fell, the appetite improved, good mashes of bran, linseed, and carrots were partaken of, tonics, a few days after, being also administered, and an uninterrupted recovery crowned our efforts.

It is a case like this that is often a touchstone to the young practitioner. Anxious for the recovery of the animal, urged perhaps by an impatient client, he, instead of carrying out the partly expectant line of treatment that he has laid down for himself, embarks on the heroic. A pound of mustard is applied to each side, which is often repeated, and every two or three hours successive doses of alcohol, in the form of whiskey, brandy, etc., are administered, with results at first, perhaps, pleasing to the client, but afterwards fatal to his horse and depletive to his pocket.—F. B. Byrne, *Student, New Veterinary College.*

LABURNUM POISONING.

Three pigs were kept, 1, 2, and 3. No. 1 occupied a sty by itself, Nos. 2 and 3 living together in the next sty. They were each six months old, and had similar food and litter. Nos. 2 and 3, however, were fond of grasses and other green food when allowed out for their daily run. No. 1 escaped scatheless, but Nos. 2 and 3 refused breakfast; on October 9th they became daily worse and appeared to lose their heads, usually found standing the head pointing to a dark corner. They refused everything in the way of food, but constantly crunched as if eating, emitting a white foamy saliva from mouth and nose. When made to walk they stepped against any obstacle as if blind. After four days they became subject to convulsive fits, these increasing in number and severity, the neck of each becoming rigid and contorted, ending in complete exhaustion, falling helpless after each attack. Endeavours were made to administer doses of castor-oil and

mustard with indifferent success. On the 11th day the fits took place about every 10 minutes. No. 2 had a slight passage of fæces, No. 3 none. On the 12th day No. 3 died in convulsions, and on the 13th day No. 2 made endeavours to swallow some warm milk. Recovery in case No. 2 was very gradual. He began to put on flesh in December, and when slaughtered weighed 16 stone. At the time referred to the clippings from the shrubbery had been gathered and put into the pigsty for bedding. The clippings contained a good deal of laburnum fruit and tops. The *post-mortem* made on the pig that died revealed extravasations of blood into the pericardial sac and into the bowels ; the abdominal veins were greatly distended with blood. The lungs were deeply congested. In the stomach a quantity of the laburnum seeds were found along with some blood-stained ingesta. The active principle of laburnum, Cystisine, is known to be very poisonous, and several cases have been recorded of poisoning in human beings from eating the seeds and bark ; one case from merely idly chewing the bark. There appear to be no accounts of the poisoning of animals by this plant ; but there is little doubt, taking into consideration how common the laburnum is, that it must have often happened before. An oleaginous aperient followed by demulcents and stimulants is perhaps the treatment indicated.—F. B. Byrne, *Student, New Veterinary College.*

IMPROVED PYRO-PUNCTURE INSTRUMENT.

BY JOSHUA A. NUNN, F.R.C.V.S., D.S.O., C.I.E., VETERINARY CAPTAIN, A.V.D.
PRINCIPAL, LAHORE VETERINARY COLLEGE.

In the usual pattern pyro-puncture instrument the needles A are placed in position in the cone B after it has been heated and are retained in their place by the key C passed through the transverse hole D in the cone and through the hole in the head of the needle E. This I have found somewhat clumsy. The needles are not easy to adjust into position in the hot iron, if they become cool the key C has to be withdrawn and the needle pushed into the cone until it is again heated. And being fixed and of one length a number of separate ones are required for punctures of different depths. The iron is heated separately and fastened into the handle by the screw F, the guard G being a fixture. In the improved pattern I have made, the iron and handle are in one, which facilitates its being heated. The guard G is separate and is fastened on by a simple arrangement of two catches in slots when the iron is withdrawn from the fire. The hole in the

cone B is made funnel-shaped as shown in H Fig. 2, at the upper part. The needle, of which only one is required, is fitted into a handle like a carpenter's bradawl I, and slides up and down in it, its length being regulated by the screw J which keeps it firm in its place. By having the needle fixed in the handle instead of with a key it has the advantage that when it gets cool it can be

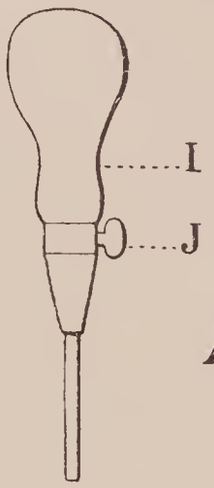


Fig. II.

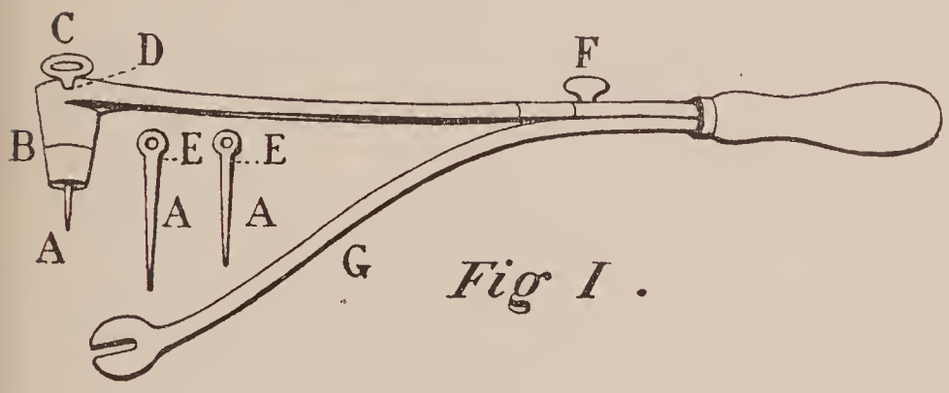
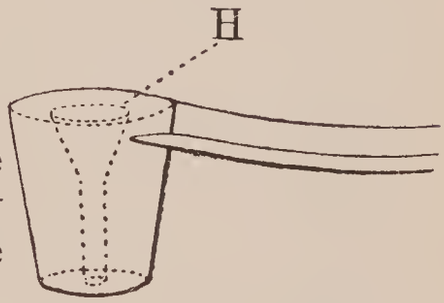


Fig I.



at once withdrawn into the hot cone and be heated again, and when it is hot, by pushing on the handle, it can at once be made to resume its position. Fig. 1 represents the usual pattern of the pyro-puncture iron, fig. 2 shows the arrangement of the cone and needle in the handle of the improved instrument. The one I have now in use was made for me by a native blacksmith.

ALBUMINURIA IN CATTLE.

BY EDWARD H. CURBISHLEY, M.R.C.V.S., STOCKPORT.

CAN it be said that "Bright's Disease" occurs in cattle, and if so, could the condition be compared to what, for want of a better name, we call milk fever? I am aware that a great deal has been written about this disease, and probably much objection will be taken to the ideas put forth in this article, but nevertheless, on comparison, it seems to me that a great similarity can be noticed between milk fever and albuminuria: as it affects the human female at, or immediately after, parturition; I do not intend to give a lengthy dissertation on albuminuria from the medical practitioner's point of view, nor in fact am I capable of doing so; though I have gained from a medical friend sufficient knowledge of the symptoms and pathology for the purpose of comparing the two conditions.

In Bright's Disease (I am speaking of Bright's Disease

only so far as it is known to affect pregnant women) the patient is within a period of about seven days attacked by convulsions, followed by coma, and sometimes death; there is very little rise of temperature; few noticeable premonitory symptoms; a frequent recovery from the first attack and a great probability, if not a certainty, of a second attack at future time in case the patient becomes again pregnant (pregnancy is given in text-books as a cause of albuminuria); the presence of albumen in the urine, which may or may not alter its appearance, and the amount of albumen does not regulate the severity of the symptoms; this usually depends upon the temperament of the patient and is more or less governed by the nervous system.

So far as I have observed milk fever attacks cows in much the same way as I describe above, and if the nervous system of the cow could be further developed we should probably see that the preliminary excitement would take the form of convulsions; and it may be said that before the second or third calf a cow has not had a sufficiency of stimulating foods to cause a condition of the kidneys similar to that found in Bright's Disease; and again, where we have a poor cow to deal with, cold and exposure can produce a diseased state of the kidney quite as readily as a plethoric condition of body.

The symptoms and course of the disease are certainly very like, and it is beyond doubt, I think, that one attack of milk fever predisposes to another.

I have repeatedly tested the urine of cows, and think I may say that in every case I have seen there is a large proportion of albumen in the urine, which when passed through the catheter (and I think the frequent use of this instrument does more to help recovery than any medicine) has exactly the same appearance as that of a horse suffering from albuminuria.

It may be said that I ought not to rush into print upon such a slender basis, but have made microscopic examinations of urine, sections of kidney, etc.; but I have not written with the object of proving the matter, but rather of calling the attention of others who have greater facilities and larger powers of observation, in order that we may be able to learn something really satisfactory with regard to this much discussed malady.

If it is true that milk fever is albuminuria we cannot hope to save every case, if changes have taken place in the structure of the kidney by any treatment as yet known to the medical professien; but it is said that in such cases in

the pregnant female of our own species, albumen makes its appearance in the urine at least a month before the end of the period of gestation. If we could form a reasonable idea as to whether or not a cow was likely to be attacked by the disease, by demonstrating the presence of albumen in the urine, it would, I believe, be a means of saving a great deal of money which the stock-owner can ill afford to lose.

If there is anything tenable in these remarks, I shall be glad to see them discussed in these columns; and if not they will no doubt soon be confuted by some better informed member of our profession.

SIMPLE CONTUSIONS AND SOME SEQUELÆ.

BY PETER MOIR, M.R.C.V.S., EDINBURGH.

THE locomotor apparatus of the horse, more particularly that of the fore extremities, by functional derangement of one or more of its numerous parts, through accident or disease, furnishes to the veterinary practitioner clinical cases, great in variety and large in number, that demand from him the exercise of no small amount of patience, and all the skill at his command, for their successful treatment.

An injury, of which the only external indication is a slight contusion, may, and frequently has masked a fractured limb, and a simple muscular contusion even some distance from an articulation, may give infinite trouble to the surgeon, and end in disastrous results.

Two cases of simple contusion have lately come under my notice, in which the extensor and flexor muscles, and the humero-radial articulation were involved, and when we consider that this part of the locomotor apparatus, by reason of the important functions it performs, not only while a horse is in motion, but also in bearing a large share of the superincumbent weight of its framework, possesses a highly vascular and nervous organisation, we should be prepared, more especially when curative measures for the initial injury have been neglected, to encounter cases likely to give trouble.

Case 1.—A bay mare, five years old, slipped up on the street, while in harness, falling on her near side. She immediately arose without being taken out of the light van, in which she was working, almost unhurt, there being merely a slight abrasion of the skin in the external lateral part of the near fore-arm. The mare was kept at slow work for about a week, after the first few minutes going fairly well, but daily becoming more lame, when starting off. Medical advice was then deemed necessary, and I found the fore-arm to be slightly

swollen, painful on pressure, and a minute orifice on the abraded part, from which there was a serous discharge, small in quantity, Complete rest and fomentations were prescribed, while the diet also was regulated.

On my next visit, three days afterwards, a well-defined, tense, and painful swelling, situated upwards and forwards, about three inches above the external orifice, was presented, the least movement of the limb causing great pain. There was a slight increase in the discharge from the wound, which, on being probed, admitted the probe to enter about two inches in the direction of the swelling. The patient was now placed in slings, the orifice enlarged, and the fomentations almost constantly applied to encourage the maturation of what seemed to be a deep, diffused abscess. A weak solution of hydrarg. perchlor. was occasionally injected. This treatment was continued for a few days, with no subsidence of the tumefaction or the pain, the former gradually extending upwards and inwards between the fleshy parts of the extensors pedis and metacarpi magnus. The discharge was appreciably increased, and a few days later appeared in great quantity, in appearance frothy, and distinctly synovial in character. Great relief was thus afforded to the patient, which favourable condition did not continue.

The further medical history of the case may be briefly stated. The synovial fluid collected among the muscular fibres and aponeuroses of the above-named muscular structures time and again. Inflammatory action extended to the joint, inducing high sympathetic fever and great loss of appetite. Dry dressings of iodoform, carbolic acid, and chalk, combined, were for some time used, with no effect, and those untoward sequelæ from a simple contusion were only finally arrested in their course by a radical change of treatment. This consisted in the application of ung. cantharid. freely over the whole external lateral aspect of the forearm. The effect was highly satisfactory. The application was repeated, and three months from the date of the accident elapsed before the patient walked sound. A few weeks' quiet grazing rendered her recovery complete.

Case 2.—A black gelding, four years old, used for farm work, while being taken out of the stable was kicked on the outside of the near forearm by a horse, when passing it, on its fleshy part, about four or five inches below the humero-radial articulation. It proceeded to its work, to all appearances nothing the worse for the kick, but after three days it became unable to work, through lameness.

After a few days' rest the horse moved much better, sufficiently well in the opinion of the owner to resume its duties, which it did for a couple of days, then being returned to the stable more lame than before. The appearances presented in this case were slight œdema of the forearm, and a small wound on the skin, giving exit to a discharge of frothy fluid, small in quantity, serous, and partly purulent. The lameness was excessive, and the patient was at once placed in slings. The owner was informed that the case was of a serious nature, aggravated by being returned to work when unfit for it. Besides giving complete rest, treatment was directed towards allaying the inflammatory action that extended very rapidly towards the internal structures of the injured region, also to coagulate the discharge which was but slight. After the horse had been under treatment about a fortnight, showing no sign of improvement, an accident occurred. During the night the patient released itself from the slings, probably from struggling in a paroxysm of pain, which was very intense on the slightest movement of the limb. He was found lying on his near side, making fruitless efforts to get up. On consulting with the owner, it was decided instead of replacing the horse in the slings, to destroy him. *Post-mortem* examination revealed marked congestion of the articulatory surfaces of the humerus and radius, and a lesion in the external, lateral, and capsular ligaments of the joint, so large as to be visible to the naked eye. This communicated direct with the outer wound, the appearances altogether verifying the opinion that the case was a hopeless one.

There can be no doubt that my clients paid very dearly for their failure to realise the serious consequences that might ensue from persisting to subject their horses to work immediately after they were injured, although those injuries were seemingly trivial. The old saying, so frequently applied to human affairs, "that great events from little causes spring," has a very pertinent application to that class of injuries, exemplified in those cases above detailed.

Editorial.

WITHIN a few days the Council of the Royal College of Veterinary Surgeons will be called upon to perform one of its most important functions, indeed, it may be said, "its most important function," namely, to appoint a new Board, who will perform the most onerous and difficult duty of examining

our students for the next three years, the members of the old Board now retiring at the end of the period for which they were appointed.

The members of the new Board are now to be appointed for three years instead of five, as hitherto. This arrangement has its advantages and disadvantages, and one great thing in its favour is the fact that services of examiners who have failed to give satisfaction can be dispensed with in three, instead of five years; whilst, on the other hand, it may be stated that it will take nearly the whole three years for some of the new examiners to become acquainted with the details of their work.

In performing such a very grave and important duty as appointing a new Board, the Council will doubtless bear in mind that there are many profound matters to be taken into consideration. The Council has first of all to select such men for examiners as will inspire confidence in the public, and this they can only do by selecting the best men, irrespective of all private friendships or personal considerations; in the second place, the interest of the candidates and justice to the schools are worthy of careful and unbiassed thought,—there must be entire freedom from prejudice as to the merits or demerits of any particular school, and freedom from fads on the part of the examiners. Let men be selected who are free from all personal and petty considerations, men who will examine students more upon the broad lines of general principles than upon the more narrow particulars of the naming of a muscle, or the particular remedy for any or many diseases; and finally the Council has to study the question of justice to the profession itself, and to ask the question whether the time has not arrived when *all* the examiners should not be selected from its own members. Years ago no one was more anxious than myself that special subjects should be examined upon by specialists in such branches of science, for it cannot be denied that when an extended examination was first instituted, the Fellows and members were scarcely prepared to take upon themselves the duties of examiners upon the subjects newly added to the list. But now neither the public nor others interested in the fairness and justice of our examinations need have any fear about the matter, for many of our members have kept themselves abreast of the advancement of the day, and possess every qualification which fits them for the duties now performed by members of the sister profession and of other scientific bodies; therefore I say let us be just to our profession, let us give

credit to ourselves for having risen to the occasion and qualified ourselves for those posts of honour now filled by others.

The profession has many struggles to maintain any position at all, and we have only to look around to see plenty of evidence of this. Consider the paltry recognition for services rendered awarded to us by Courts of Law; the attempt now being made to reduce our fee for opinions upon street accidents; the magnificent reward for services to insurance companies; and whilst we cannot complain quite so much about the individual fees paid by the Board of Agriculture, we have a just cause of complaint about the manner in which we have been, and still are, superseded in the performance of what is strictly a professional function by that Board, which, as lately described by a humorous writer in *The Record*, has reduced us into "tripe washers." But if reports be true we have a greater difficulty in front of us—the greatest blow hitherto struck at us—that of having a non-professional person at the head of our Government Veterinary Department of the Board of Agriculture. If this report be correct, all other grievances sink into insignificance scarce worthy of consideration; but looking squarely and in the face of the matter are we not bound to confess that we ourselves still continue to lead the van in reducing curselves to a lower level than the one we ought to hold? If we complain to the chairman of the Board of Agriculture about his treatment of our profession, is he not entitled to turn round upon us and say to us, "Gentlemen, do *you* consider the dignity of your profession? If you do, why do you go outside your own body for gentlemen to perform your own functions, or must you confess that you have none within yourselves fitted to perform those functions? Gentlemen," he can say, "look at home; if you conclude that your profession does not contain men fitted to perform the duties of examiners, do not find fault with me and the Government for concluding that the public will be better served by having a layman at the head of the Veterinary Department."

THE RECENT LONG-CONTINUED LOW TEMPERATURE.

MUCH as has been studied and written, both by investigators in physics and by those who attempt to apply their deductions to the elucidation of organic phenomena, there is scarcely any point of contact between the laws relating to the living, on the one hand, and the non-living, on the other, where a more hazy and inaccurate knowledge exists, among even those we

may term generally the well-informed, than where heat is concerned. When in addition it is to be remembered that among "those who ought to know" there is by no means an entire agreement in regard to several important points connected with the relations of temperature to life, we need not be surprised at this. With, however, the grand generalisation of that recently-deceased prince of physicists and physiologists, Helmholtz, the conception of the "conservation of energy" as a universal law in living and non-living matter alike, has cleared up much which was previously obscure.

The origin of that most wonderful power, called familiarly "vital force," has, and perhaps will ever be, an insoluble enigma; but of this we are now certain, that the living creature cannot produce it out of nothing.

In addition, we are equally certain that in taking in supplies of external force to make up for its constant loss, there is no more generally available force than heat force.

Passing over the important subject of heat evolution within the animal (and plant also) from oxidative changes upon food and tissue, we may find it of interest to consider only the effect of external heat, or its negative expression, cold.

The almost perfect uniformity of body temperature, under very varying external conditions, pointing, as it does, to a very sensitive regulatory arrangement, is still to a small extent varied by external influences; and just as nature insists that the internal economy shall have for effective performance of vital acts an almost fixed temperature, so do these external influences, especially when extreme, become of very great importance. Apart from direct experiment on living animals, the ordinary experiences of life have shown that temporary periods of very considerable variation indeed from the best conditions as to air temperature, if of not too long continuance, have but little power to disturb the health balance. No one need be told that long continuance of excess of heat or cold becomes very trying, and that the powers of the organism are severely taxed in trying to meet the new conditions: I purposely say new, for we are equally certain that if the changes are only slow enough, very considerable range may be borne by the individual, and still greater by the progeny. For warm-blooded animals it has not yet been decided what extremes of heat or cold becomes fatal; temperatures of close upon 600° Fah. have been endured for short intervals without much distress, and that without much appreciable alteration of the normal temperature of the body.

Extremes of cold have been equally well borne if the body be sufficiently protected; experiences of —50° Fah. without much discomfort are related.

There is this, however, to be remembered, that as with all conditions of strain upon the available energy of the organism, conditions of physical weakness tell profoundly; the two extremes of age are but ill suited for this strain, and for humanity at least, the Registrar General's returns shew a marked rise of mortality among the very young and the very old in the winter months, especially when of that kind through which we have just passed. For all warm-blooded animals, no doubt the same holds good, even for birds, who have perhaps more than others, the means of generating and sustaining a high degree of animal heat, but for these, as yet, we have no tables to show statistically the effects of a "cold snap." Few, but those accustomed to deal with problems connected with animal life in relation to heat, are aware of the amount of force actually taken in and expended in the form of heat. While differing in different animals, greatest perhaps in the smaller animals, and somewhat lower proportionately to body weight in the horse than in man, the actual figures for the latter (the only case where it has been accurately worked out) show plainly the importance of heat as a factor in animal mechanics.

With the well-known "mechanical equivalent of heat" before us, the results are easily deducible.

In the human subject of average weight, the amount of heat force developed from the daily food alone would, if converted into mechanical force, be sufficient to raise 11,451 tons one metre high. For each kilogramme of body weight, the horse gives out per hour $2\frac{1}{10}$ heat units; * sheep $2\frac{6}{10}$ heat units, and the dog 4 heat units. Figures are proverbially misleading, but the importance of the heat function cannot be overlooked. Ignoring for the present the sensations of heat and cold which are peculiarly illusory, we are forced to seek for some intelligent explanation of how temperature, high or low, as the case may be, are under some conditions almost unbearable, while under other conditions no discomfort may arise from exposure to them, even for a prolonged period.

In the moisture suspended in our atmosphere lies, perhaps, the greater part of the cause of this difference, and in the matter of motion or stillness of the immediately surrounding air, perhaps we shall find the rest. There is no doubt that a

* Heat unit=heat required to raise one gramme of water 1° cent.

still dry cold can be borne much more easily than when the conditions are reversed. A hot damp is also well known to to try the system severely. Winds are a potent factor, and the biting effects of a Nor-easter need not be dwelt upon. The climatic differences of places a few miles apart mostly depend upon these causes.

For man and beast (I mean more especially the domesticated beast) such changes of average conditions of climates as we have recently experienced, require the healthiest conditions of body to withstand, and we have seen that structurally our "housing" arrangements are hardly equal to such occasions. Hygienists, human and veterinarian, have learned of late not a few important lessons which, sooner or later, we hope to see utilised in houses and stables; for once in a dozen years is too often to be taken unawares in a semi-unprotected state. That the so-called wild animals have equally, by the late cold, been found unprepared, is evidenced by the large number of dead birds, mice, rabbits, etc., one sees in their walks abroad. Perhaps no ill is without its advantages after all, and the arrest or possible destruction of pathogenic organisms in air and water may be not the least of them. One lesson, however, we have all learned—the "weather prophet" must in future be less trusted to, for we were promised a mild winter. Meteorology has yet to win its laurels, and it is to be feared we must after all be prepared for all sorts of things on what, for want of a better name, we call *chance*.

BILIARY CIRRHOSIS OF THE LIVER IN CATTLE.

(Pictou Cattle Disease.)

An interesting paper was read upon this subject at the United States Veterinary Congress by Wyatt Johnston, M.D., Montreal, Canada. Dr. Johnston says:—This malady, which affects cattle, is limited to two counties in Nova Scotia, Pictou and Antigonish. It has been known to exist there for upward of 30 years, and has never spread to the adjoining districts or extended to other countries to which cattle are shipped; but while it has remained confined to this portion of Nova Scotia, which represents an area 40 miles square, and while it has never extended widely over the province, it has shown a tendency to increase and spread to other farms. When it attacks a new farm it affects chiefly animals that have been on the farm for two or three years. By the end of the second year it kills or attacks 10 per cent., and by the end of the third season it has practically involved

all the old cattle which have been allowed to remain on the farm; but as when the cases appear the farmers tried to get rid of their stock, it is hard to tell what is the true mortality.

As far as can be shown by any experiments, it is not contagious from animal to animal, and not infectious. A number of experiments have been tried by inoculating animals, but without producing any positive results.

The symptoms of the disease are interesting, and were described 15 years ago by Dr. D. McEachran. The cattle have the appearance of being out of condition. They show, very early, diarrhœa, and the milk acquires a bitter taste and unpleasant odour. This odour may be found in the milk of an animal which shows no other signs of sickness, so that the change in the milk, which represents a disturbanee in the nutrition of the tissues, is the earliest symptom. The diarrhœa is one of the most marked symptoms, and usually continues for a long time. Among other symptoms are a full, soft pulse, and a very prominent bulging of the eyes and a roughness of the coat. These are invariably present in those animals, but they are not especially characteristic of this disease. After being ill about a week the abdomen of the animal is noticed to swell, owing to the development of ascites; and if the animal is killed from one to three weeks from the commencement of the symptoms the ascites is abundant, the fluid amounting to several bucketfuls. With this ascites there is a disappearance of the fat about the kidneys, so that the adipose tissues become filled with a clear fluid which apparently replaces the fat.

The pulse is usually increased in rapidity; the temperature is always normal. I have never found an elevation of temperature except in two cases, and these were evidently cases which, in addition to the Pictou disease, were in a septic condition, the hemorrhagic areas being noticed throughout the viscera besides the other changes; but in pure cases the temperature was not elevated.

Coming to the pathological anatomy of the disease, upon which I have some demonstrations to make, the Dominion Government instituted an investigation into the pathology of the disease with a view of determining the cause, and I happened to be the person selected to do the work. In addition to the symptoms described by others, the animals presented a very interesting condition, which appeared to exist in all cases, namely: that the liver, and especially the function of bile secretion, was affected. I made thirty-five autopsies in all. I found among those only one perfectly normal liver, and

in that case I was doubtful as to the presence of the disease. There were a few cupfuls of fluid in the abdomen, and the animal seemed to be in good condition. The condition of the liver in the early stages is a very peculiar one. There is a very great secretion of bile; the gall-bladder is very much distended with bile; it sometimes contains over a quart of bile. In spite of this there is an excess of bile passed in the stools, which are dark and contain large quantities of bile. I have never seen any obstruction in the bile passages.

In the early stages the liver shows marked signs of parenchymatous degeneration, or cloudy swelling, it looks opaque, and the cells on examination are swollen and cloudy; later on a fatty change in the liver cells is very common. In the late stages of the disease—that is to say, in animals which have been ill two or three months—the liver always shows a marked condition of cirrhosis and the liver cells have disappeared and are replaced by a delicate fibrous tissue. This condition in the liver in the late stages resembles the condition described in the human anatomy as biliary cirrhosis, but the cirrhosis only appears after the acute symptoms have subsided.

What the significance of this change in the liver may be I am not prepared to say. Negative conclusions are not of very much value, and I do not wish to lay any stress on the fact that in a series of pretty exhaustive bacteriological examinations in which all the tissues, including the blood, the spleen, the kidneys, lungs, and the fluids from the lymph glands, I failed to find any characteristic bacterial or other organisms. It is possible that this agent which causes the disease may be of the nature of a poison taken into the food, but I am not prepared to speak upon that point with certainty. There are a number of interesting points in connection with this disease which I would like to mention if the time permitted, but the one point which I wish to emphasise now is the regularity with which the liver is affected in the disease. I do not want to establish on that basis any definite theory as to the cause of the disease, because I do not think there is enough information to permit that, but I would like to ask of the members of the Association under what conditions are cirrhoses of the liver met with in cattle, and to tell me of any disease in which you have found the liver of cattle in similar condition, of if this is one peculiar to Nova Scotia. I am sure we shall be glad if Dr. McEachran will say something about the disease. There is one condition that attracts much attention in this disease; that is a peculiar condition of the submucosa of the

fourth stomach, which is distended with a clear viscid fluid, so that the folds are swollen out in round dropsical masses, the distention being due to the fluid. I have never seen it except in the fourth stomach. In some cases where they have been ill for over a month a number of ulcers are to be seen in the stomach, but they are not met with in the earlier stage, and appear to be secondary, and due to the interference with the circulation.

Discussion.

The PRESIDENT: Having Dr. McEachran with us, I think the Association would be pleased to hear from him, as he has seen so much of the disease.

Dr. MCEACHRAN: Mr. Chairman and Gentlemen,—The history of this disease has been so fully published that I think but few members of the profession are not familiar with it. I may say that forty years ago this disease was first observed in the province of Nova Scotia. In talking with the farmers to-day they will tell you that its appearance was co-existent with the appearance of the ragwort referred to by Dr. Johnston, and they are fully convinced that this plant has to do with the disease. In this, of course, they are in error. The family of ragwort is not a poisonous plant or one which causes any change in the blood which leads to any such disease as this. In 1880 I visited that country, spent some weeks in making a thorough investigation. I called to my assistance Professor Lawson, of Halifax, and also a chemist, and we had a thorough investigation made with reference to the botany of plants and a thorough analysis of the soils in different places, and of the water. Professor Lawson visited with me the district and made a somewhat hurried investigation, which, however, did not result in anything satisfactory as to deciding the exact parentage of the disease. The disease has continued with greater or less severity ever since, during over nearly forty years, and this year I think it has been nearly as prevalent as it has been before, notwithstanding all our efforts to exterminate it. Part of this summer and the summer before I requested the Government to be allowed to send a microscopist there. Dr. Johnston was there, conducting experiments, making *post-mortem* examinations, making experiments by inoculation and the usual experiments made to determine the contagious or non-contagious character of such disease. The result, as he has told you, has not been such as to enable us to clearly arrive at the true micrology of the disease or its causation. That it is

non-contagious, I am perfectly satisfied. The experiments which were conducted in 1881, 1882, and 1883 fully established this, and it has been further established by the experiments conducted under the supervision of Dr. Johnston. I have submitted our investigation to members of the profession on both sides of the Atlantic, without receiving any assistance from them elucidating its nature. I was not aware Dr. Johnston was going to bring this subject up, and am not prepared to say anything on it, but I am glad it has been brought up for several reasons, one of which is that some years ago a leading member of the profession in this country published an article in the *Chicago Live Stock Journal*, in which he stated that this disease was anthrax. The gentleman in question had not visited the district, or made a single *post-mortem* examination, or done any work on the subject whatever. I am satisfied it is not anthrax. A temporary embargo was placed on cattle entering the United States from Nova Scotia, on account of reports made by dissatisfied persons who wanted to injure the Government of that day. On a proper representation and submitting the full public facts the embargo was immediately removed, showing that in that department at least there is a sound-sense play when the matter is fully understood. Now, gentlemen, I shall be exceedingly pleased if the profession on this side can do anything to help us in arriving at a correct diagnosis of this disease and make a correct estimate of what it really is, so that we may arrive at its causation. It is costing the Government of Canada a considerable amount annually in dealing with it, and this I should like very much to see saved, which we can only do by discovering the cause which leads to this condition. I shall be very much pleased, therefore, if any hints are thrown out which will help us in the matter.

Dr. BRYDEN: The only suggestion I ever heard was that the Government should buy up all the cows, and pay the farmers something for the loss, to be continued for a number of years.

Dr. MCEACHRAN: I may say that we have been buying up the cows and are buying up the cows, and the expense is somewhat large, without any satisfactory result. I may say that the only disease that I found is what you will find referred to in Payne's "Pathological Anatomy," in which we read of an exactly similar pathological condition which is seen during famines, where people have resorted to almost anything to fill the stomach for want of solid food, and I was under the impression, therefore, that this was due

to want of albuminoids; and any of you who are familiar with the country there, where the farmers are nearly all fishermen, will know that the farms are generally neglected during the time they are engaged in fishing, namely, in summer, and the result is the haymaking is delayed until the seeds have fallen, and consequently the hay that remains, or the grass, is deficient in albuminoids. I look at this disease as closely resembling starvation; the albuminoids having fallen from the grasses in the shape of seeds, what remains is non-nutritious. I first suggested to the Government that, instead of following out Dr. Bryden's suggestion, we should slaughter all the animals in the country, which I think would not meet with the desired result; that we should for a year or so supply the farmers with a good quantity of oilcake, or like albuminoid, and encourage them to grow sunflower seeds and supply albuminoids, and try if that would not have the desired effect. I know that on the well-conducted farms, where the cattle are properly fed, the disease is rarely seen to exist. I know that nearly all the farms that I visited and where I found the disease, there have been cattle of inferior quality, lodged in buildings of very inferior quality, and fed on anything that would fill the stomach; so I look on the disease, as I said before, as more closely resembling semi-starvation than as any special pathological condition. In this I may not be right, but it is an opinion that I formed 13 years ago.

Dr. BRYDEN: My theory was to abstain from keeping cattle altogether.

Dr. JOHNSTON: I might say with regard to the starvation theory of the disease, Mr. Chairman, that I think that Professor McEachran is quite right in the fact that it is very liable to occur in animals that are badly fed. It is also just as likely to occur in animals that are overfed, and it frequently breaks out among cattle which are more or less pet animals—that is, where the people will keep a cow and get quite fond of it and see that it wants for nothing, so that the cow almost becomes a member of the family, one might say, and greatly petted; in several cases these animals have taken the disease. It seemed to me that over-feeding or imprudent feeding was more the factor than starvation, and that it appeared to act not directly in inducing the disease, but in predisposing to it through some disturbance of the digestion. That is the conclusion I formed. The cause of this malady seems to be very obscure; but, as bearing upon the starvation theory of origin, I take the liberty of quoting

from my own work, "The Principles and Practice of Veterinary Medicine," Article "Chronic Hepatitis."

INDURATION OF THE LIVER is described under a variety of names—cirrhosis, interstitial hepatitis, hob-nailed or gin-drinker's liver, nutmeg liver, and chronic atrophy; and the nature of the changes which occur in the liver substance are explained in three ways:—

Dr. Goodeve, who takes the view of Dr. Budd, says that "when it commences with inflammation or congestion, the course which leads to atrophy is as follows:—Fibrinous exudation takes place; this occupies the portal canals, and extends even into their minute ramifications, so that the very lobules may be separated by the exudation. Livers in this early stage are much enlarged, are firm and tough—sometimes very tough—the external surface, perhaps, merely uneven, with commencing granulations, and the capsule more or less thickened and opaque. On section there is found considerable vascularity, an amorphous, albuminous exudation, tailed or spindle-shaped cells and fibro-cellular tissus separating the lobules. In more advanced stages the fibroue tissue is more decidedly developed. Subsequent to the organization of the exudation, contraction follows, with constriction of the vessels lying in the course of the new tissue, impediment to the circulation in the small branches of the portal veins, starvation and wasting of the tissue by them."—(See REYNOLDS' *System of Medicine*, vol. iii. page 345.)

Cirrhosis is attributable to degeneration of the secreting tissue, independently of inflammation, arising from an unsuitable pabulum passing through the liver, causing a smaller demand for and diminished afflux of portal blood, wasting and absorption of the lobular structure, leaving masses of the connective tissue, which waste less rapidly than the secreting ones; this change being similar to atrophy, as it occurs in muscular tissue, and due to similar causes, namely, imperfection in the quality and diminution in the quantity of the blood.

The cases to be immediately described support this latter view, and that in all probability the atrophic change may also be partly due to the liver not being called upon to perform its function, owing to the animals having been kept in a state of semi-starvation. The cases referred to are as follows:—In the month of January, 1873, Mr. James C. Dixon, veterinary surgeon, Rothbury, Northumberland, forwarded a sample of urine from a mare, requesting my opinion as to the nature of her disease. After duly examining the urine, I

expressed an opinion that the animal was suffering from some affection of the liver, and wrote for a description of the symptoms. Mr. Dixon replied that he saw the mare on the 7th December, 1872; it was then dull, hanging its head, and off its feed; the breathing slightly accelerated; the pulse 80, small and feeble, but there was no cough; the breath was rather fœtid; the bowels regular. In the course of a few days the pulse was down to forty-four, and it was much improved, the bowels regular; but at this time Mr. Dixon ceased visiting it. Shortly afterwards he was told that it drank too much water, and passed large quantities of urine. An examination of the food showed that both the hay and corn were very mouldy and bad. By this time it had lost much flesh, and was "awfully tucked up" in the flanks. The eyes were quite yellow, the fæces light coloured, glazed, and having a very offensive smell; the urine of a deep amber tint, and passed in great quantities. It continued alternately better and worse for some time, but losing much flesh. Mr. Dixon says, "I never saw an animal lose condition so fast in my life, except cattle when in the advanced stages of red water. After death," Mr. Dixon says, "the liver seemed dyed with bile. I have seen grocers have coarse paper the colour of this liver." A portion of this liver was sent to me, and found to be identical in appearance with the indurated liver of the human being. Externally the organ was more or less roughened in some places, firm to the touch, and broke down under the finger less readily than natural—in fact, was firm, dry, tough, and fibrous, and on section the lobules were in parts completely replaced by a white fibrous tissue, and in others surrounded by an increased quantity of the same structure, giving to the cut surface a mottled granular appearance similar to that presented in the interior of a nutmeg.

The kidneys of the same animal were in a stage of degeneration.

Two other animals died on the same farm, namely, a mare and a six months' foal, between the time mentioned and the 25th of March, from liver and kidney disease.

Mr. Dixon also sent me the symptoms presented by the foal. He says—"I was called to the foal on the 13th of March (but I saw this foal in December, when it was a nice, thriving, promising animal), but about eight days before I was called to it I was passing the farm and looked in. The foal was in a box. I went in and handled it, and I was perfectly struck by its appearance—just shaggy hair, skin and bone; the hair

of a dirty dry colour, in fact quite darkened to a mousy brown while before it was a lightish brown ; pot-bellied. I examined the hay in the rack, took out a handful of dry, musty, black stuff, more fit to litter pigs ; so I was called on the day mentioned. It seemed inclined to hang down its head, or oftener stood with it in the manger, resting on the under jaw ; fore-legs apart ; pulse eighty, with some degree of power in it ; eye yellow ; the pot-belly gone, and rather tucked up ; pain on right side (like the rest). Next day comatose, pushing its head in corner of box, cold legs and ears, and dead next morning. Great debility and weakness were present from the first. I may add that the foal had never refused eating until the day I was called to it ; it ate none after that, and it was not confined in the bowels."

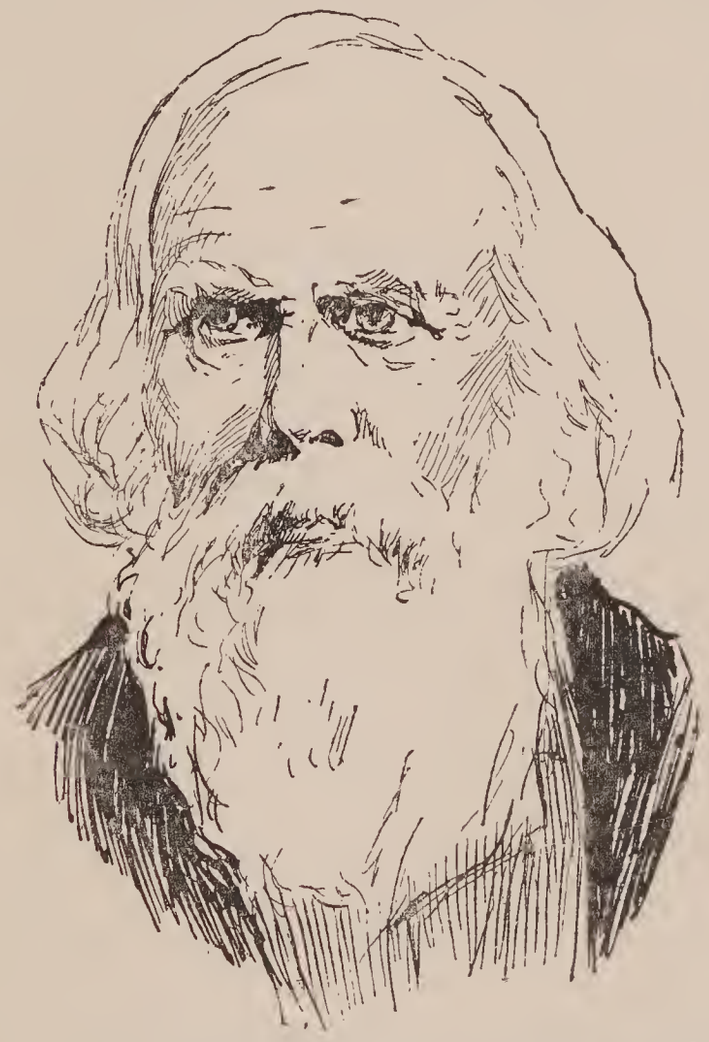
It appears from the history of these cases that cirrhosis of the liver was due to a gradual starvation, and that the atrophy of the hepatic secreting structures was part of the general, emaciation—atrophy—of the whole body, which was so rapidly going on, consequent on want of proper food.

Cirrhosis, consisting as it does of an organic change in the gland, tends to a fatal termination, but the rapidity of its course and progress may in some instances be modified by the removal of its cause.

THE LATE JOSEPH GAMGEE.

THIS venerable member of the profession died at Edinburgh on the 9th of last month. He had been ailing for some months before his decease took place, and, latterly, he had been quite prostrate ; so feeble, indeed, that he was unaware of the death of his son, which took place in December. Joseph Gamgee was the father of the veterinary profession, having been born in Essex on the 10th of February, 1801, and had thus attained the patriarchal age of 94. We have in him lost a connecting link with the past, with the days that preceded Waterloo and even Trafalgar, when railways and telegraphs were yet unknown. Young Gamgee had some strange experiences of this state of things, for he left England when he was only 20 years old, to undertake an important engagement in the south of Italy. He travelled by road across Europe, passing through Paris on his way. There he got his horses shod, and there he noticed, with his keen, quick eye,

how much better the French farriers shod their horses than the English could; this, it is said, produced a lasting impression on the young man's mind, and formed the germ of future studies. At the time of Gamgee's arrival in Italy, brigandage abounded, and revolutions and insurrections were of frequent occurrence. The young man, who had been entrusted with the care of hunters and a pack of hounds belonging to the Prince of Petrulla, had to travel frequently between Naples and the Prince's hunting-ground, carrying with



him money and valuables; on one occasion he was attacked by two brigands, who demanded his money, but the plucky young Englishman bravely defended himself and drove off his assailants, although they were both armed. On another occasion he was attacked by a band of ruffians, and robbed of his money; but, watching his opportunity, he tore himself out of their clutches, and escaped by running. These little incidents in his early career, show the manly vigour and courage that inspired him. At the age of 22, Gamgee returned to England, and entered the Veterinary College in 1823.

There he worked hard, and took his diploma the following year; he afterwards visited the veterinary school at Alfort, and in the autumn of 1825, returned to Naples, but he did not remain there long. He thought there might be a better opening for him at Florence, as that beautiful city was then the resort of many noble and wealthy English families, who travelled with their own horses and carriages. In Florence he settled down; there his young wife, whom he had married in England, joined him, and there all his children were born, except one. In our February number, when writing about John Gamgee, we gave details as to Mr. Gamgee's family, so that we need not say anything further on this point. We may mention, however, in passing, that Joseph Gamgee won for himself a high reputation whilst in Florence, and in 1844 was requested by the Duke of Savoy to accompany the Marquis of Pamparra to England, whither he was going to purchase horses for the Duke. Such visits became very frequent, and helped to strengthen Mr. Gamgee's desire to return to his native country. This he accomplished in 1855, and immediately set to work here in the same vigorous and zealous manner in which he had made himself notable in Italy. He taught for some years in the New Veterinary College, Edinburgh, and afterwards in the Albert Veterinary College, London.

Joseph Gamgee was not only a careful observer and conscientious investigator, but also a graceful and vigorous writer. He contributed articles to the *Edinburgh Veterinary Review* from 1858 onwards, as well as to other scientific journals. He was an authority of first-rate importance on the breeding of horses, and did a great deal to improve English methods. An essay on "The Breeding of Hunters and Roadsters" won the prize offered by the Royal Agricultural Society. His book on "Lameness and Horse-shoeing"—the result of long experience in various countries—is everywhere regarded as authoritative on the subject. Gamgee was a thorough lover of horses, and thoroughly understood them. The amount of good work he has done in the course of a long and busy life is wonderful; he was a man of whom his native country may well be proud, and whom the youthful generation may gladly take as their model of life and conduct.

Period.	Pleuro-Pneumonia.			Swine-Fever.			Anthrax.		Glanders (including Farcy).		Rabies.	Foot-and-Mouth Disease.	
	Number of Cattle Slaughtered.				Number of Swine Slaughtered.								
	Diseased.	Having been in Contact.	Suspected.	Number of Swine Died of Swine-Fever.	Diseased or having been exposed to Infection.	Suspected.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.	Number of Diseased Animals Killed or Died.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.
Week ended March 16, 1895..	..	8	..	159	1172	15	10	31	22	35	18	..	..
Corresponding week in 1894	..	..	..	207	1234	19	6	12	19	25	2	..	..
Corresponding week in 1893	..	..	1	105	221	..	13	24	22	38	..	..	..
Corresponding week in 1892	10	49	2	69	211	..	7	9	32	55	..	10	508
Total for 11 Weeks, 1895 ..	..	43	2	1523	7123	177	101	246	211	373	177	..	..
Corresponding period in 1894	..	..	9	1499	11708	182	161	330	254	334	31	..	..
Corresponding period in 1893	..	..	17	1002	2077	..	99	92	320	577	15	2	30
Corresponding period in 1892	50	591	52	857	2401	..	60	107	340	615	2	43	1464

NOTE.—The figures for the current Year are approximate only.

Board of Agriculture, 22*nd March*, 1895.

CONTAGIOUS DISEASES ANIMALS ACT, 1894.

THE returns of the Board of Agriculture for the week ending February 23rd, 1895, relating to Swine Fever, report 100 deaths in England, 478 slaughtered as diseased, or having been exposed to infection, and 12 slaughtered as suspected, but found free from the disease. In Wales, 9 died, and 41 were slaughtered; in Scotland, 12 died, and 54 were slaughtered; of Anthrax, in England, there were 6 outbreaks, 7 animals being attacked, 1 was killed, 6 died; in Scotland, there were 3 outbreaks, 5 animals being attacked, 4 died. The existence of Glanders, including Farcy, was reported from 24 different places in London; from Cumberland, 1; Essex, 2; Lancaster, 3; 32 in all. Twenty-seven horses were killed, 3 died; in Scotland, there was 1 case of Glanders, destroyed. Rabies—Nineteen cases were reported, 11 from York (West Riding), 5 from Lancaster, 1 from Chester, 1 Durham, 1 London; 15 dogs and 2 sheep were killed; 1 dog and 1 sheep died.

During the week ending March 2nd, 1895. Pleuro-Pneumonia—Three cattle were slaughtered in Essex, and 3 in London, they having been in contact with a head of cattle slaughtered by the owner, found to be affected with Pleuro-Pneumonia. Swine Fever, on the increase, compared with last week, 113 deaths, and 612 slaughtered in England; in Wales and Scotland, 13 deaths and 16 slaughtered. Anthrax—A serious outbreak in Devonshire, 56 cattle, of which 41 died, having been attacked. In Perthshire, there were 4 deaths reported, all other parts of the country being comparatively clear, there being only 6 cases reported. Glanders, including Farcy—Twenty-five cases in London, 24 killed: Essex, 3; Lancaster, 3; Middlesex, 2; Hants, Kent, Surrey, Sussex, 1 each; total destroyed in England, 33. In Scotland, 2 cases; both killed. Rabies—Ten dogs killed during the week, all in Lancaster and York (West Riding); three dogs died. Total, 13.

Returns for week ending March 9th. Pleuro-Pneumonia—Twenty-nine cattle slaughtered for having been in contact. 1, Essex; 28 London. Swine Fever—England, 232 deaths; 808 slaughtered; Wales, 9 deaths; 36 slaughtered. Scotland—1 death, 20 slaughtered. Anthrax—Existed in 9 farms or other places; England, 42 cases; deaths, 39; remaining 3. Scotland, 2 cases, 2 deaths. Glanders—Existed in 27 stables in England, 20 horses killed; Scotland, in 3 stables, 3 cases, 2 killed, 1 died. Rabies—Thirteen cases in England only. London, 1; Chester, 1; Lancaster, 5; York (West Riding), 6. All destroyed.

Army Veterinary Department.

London Gazette, March 12th.

Veterinary-Captain E. H. Kelly is placed on temporary half-pay on account of ill-health. Dated 7th March, 1895.

F. M. Carr, gent., to be Veterinary-Lieutenant in succession to Veterinary-Captain E. H. Kelly. Dated 13th March, 1895.

ROYAL WILTSHIRE YEOMANRY CAVALRY REGIMENT.—T. V. Pettifer, gent., to be Veterinary-Lieutenant. Dated 13th March, 1895.

Moves.—Veterinary-Lieutenant J. H. Jackson has been transferred to Royal Horse Artillery, Newbridge, from 10th Hussars, Ballincallig.

Veterinary-Lieutenant W. F. Shove, transferred to 10th Hussars, Ballincallig, from Royal Horse Artillery, Newbridge.

London Gazette, March 19th.

Veterinary-Lieutenant-Colonel G. A. Oliver, F.R.C.V.S., is placed on retired pay. Dated 14th March, 1895.

Veterinary-Major R. Poyser, F.R.C.V.S., to be Veterinary-Lieutenant-Colonel *vice* G. A. Oliver, F.R.C.V.S. Dated 14th March, 1895.

F. W. Hunt, gent., to be Veterinary-Lieutenant, in succession to Veterinary-Major R. Poyser, F.R.C.V.S. Dated 20th March, 1895.

Arrivals.—Veterinary-Lieutenant-Colonel A. Thomson arrived from India 16th inst., and will be posted to Aldershot to take over the duties of district veterinary officer at that station.

Departures.—Veterinary-Lieutenants H. A. Sullivan and F. W. Wilson will embark for India on 28th inst.

Obituary.

John Meredith, Shrewsbury	graduated	May, 1848.
John Jenks, Larne, Ireland	,,	Dec. 1850.
Robt. B. Prentice, Longford	,,	April, 1879—'80.
A. E. Barlow, Reading	,,	July, 1881.
John Fryer, Kirby Fleetham, Yorks	,,	May, 1841.
Chas. Grimmer, Bungay, Suffolk	,,	May, 1855.
Peter Leach, Heavitree, Exeter	,,	May, 1843.
C. J. Hubbick, Durham	,,	April, 1840.
T. C. Fergusson, Glenluce, Wigtownshire		May, 1894.
J. W. Anderton, Skipton, Yorks	,,	May, 1861.
Jos. Gamgee, Edinburgh	,,	July, 1824.

Reviews.

INFECTIOUSNESS OF MILK. Report of work done under the auspices of the Massachusetts Society for Promoting Agriculture upon the Infectiousness of Milk from Cows with no lesion of the Udder.

The committee of scientists entrusted to investigate a subject of so great vital importance by the above Society, has done its work carefully and well. Its efforts were directed to determine whether or not the milk derived from tuberculous cows might contain the infectious material of the disease, and in this way become dangerous when used as an article of food. The question was divided into two parts:—1st. Whether this infection, if it existed, was confined to cases in which there was actual tuberculous disease of the udder? 2nd. Whether it might exist in cases in which the udder was apparently or actually healthy, but the disease existed in other parts of the body?

"In regard to the first part of the question, plain common sense showed that the danger of infection was a real one, and, besides this, there existed at the time sufficient experimental data to prove the fact, so that there was very little dispute that, under such circumstances, milk should not be used for food,—certainly in an uncooked condition. Evidence since then in the same direction has constantly accumulated, and now there is hardly a dissenting opinion that milk from cows with tuberculosis of the udder should be condemned for food.

"Upon the second point, however, as to whether the milk from cows with tuberculosis, but not of the udder, might be dangerous, there was a great diversity of opinion, and almost no experimental evidence upon which to base what opinion there was. It was in this direction, therefore, that it was especially desirable to obtain evidence, and, after considerable discussion, it was decided that the main line of experiment should be so conducted that this point might be decided."

"The work, then, was undertaken with this special end in view, to determine *whether the infectious element of tuberculosis ever existed in milk from tuberculous cows whose udders were apparently healthy*, and was prosecuted under the following headings: 1. *A careful and persistent microscopic*

examination of the milk from such cattle; 2. Inoculation experiments with such milk; 3. Feeding experiments with the same milk. In addition to these three main lines of investigation, there was also undertaken: 4. *Similar investigations of the milk supply of Boston; and,* 5. *The gathering of as much evidence as possible from medical men and veterinarians as to cases of probable infection through tuberculous milk that had come under their observation.*

"The methods by which these points were observed and the results that were obtained are given below. The experimental farm, where the animals were kept, was at Mattapan, where it was possible to obtain the best hygienic conditions, and where the feeding experiments and *post-mortem* examinations were conducted, while the remainder of the work was done at the bacteriological laboratory of the Harvard Medical School."

Cover-glass examinations of milk from cows affected with tuberculosis (as proved by *post-mortem* examination) were made methodically and continuously for over two years. Guinea-pigs and rabbits were inoculated with the tuberculous milk, tubercle being found in a small number of each, on *post-mortem* examination. Rabbits and pigs were next experimented on by feeding with the milk. In the former the positive results were trifling, but of the pigs, twelve in number, five demonstrated the presence of bacilli under the microscope. Twenty-one calves, each a few days old, were next experimented with, eight proving to be infected with tubercle after being fed for a few months.

"It is of course true that pigs and calves, that drink milk much more freely than do rabbits, are more susceptible to infection by the gastro-intestinal tract, and that this may explain the far greater proportion of positive results in these two species of animals."

"The last of the lines in which investigation was made was to endeavour, if possible, to obtain clinical reports of cases of transmission through milk from mother to offspring, and evidence was sought in this direction as follows:—

"In January and February of the year 1890 a circular was sent out to about eighteen hundred medical and veterinary gentlemen, in an attempt to discover any clinical cases bearing upon the subject at hand. The list was chosen, in the first place, from the members of the Massachusetts Medical Society of at least five years' standing, and was then filled out with the names of the members of the American Surgical Association, the Association of American Physicians, and one or two of the other special societies of the country. The names of the veterinarians were taken from the rolls of the United States Veterinary Association, and included those who were thought to have had enough experience to make their observations of possible value in this direction, in the same way as the list of medical men was completed. A copy of the circular follows:—

"HARVARD MEDICAL SCHOOL, BACTERIOLOGICAL LABORATORY,
"BOSTON, January, 1890.

"DEAR SIR,—It is desired to obtain a collection of statistics upon the following point: Have you ever seen a case of tuberculosis which it seemed possible to you to trace to a milk supply as a cause?

"An answer upon the inclosed postal card will greatly oblige

"Yours very truly,
"HAROLD C. ERNST, M.D."

"Dr. ———."

Almost 1,000 replies, including fifty-four from veterinary surgeons, were returned, the latter, in much the larger proportion, expressing themselves positive that the milk of tuberculous cows was dangerous as human food.

The committee has published the following conclusions it has arrived at:—

"1. While the transmission of tuberculosis by milk is probably not the

most important means by which the disease is propagated, it is something to be guarded against most carefully.

"2. The possibility of milk from tuberculous udders containing the infectious element is undeniable.

"3. With the evidence here presented, it is equally undeniable that milk from diseased cows with no appreciable lesion of the udder may, and not infrequently does, contain the bacillus of the disease.

"4. Therefore all such milk should be condemned for food."

It is unquestionable that the experiments made by the committee have had much influence in moulding public opinion on this matter in America, at least one direct result of the work has been the inspection of the herds of cattle in New York by the Board of Health of that State.

MEDECINE LEGALE VETERINAIRE, par ALFRED GALLIER, médecin-veterinaire, Inspecteur sanitaire de la ville de Caen. (Paris, J. B. Baillière et Fils).

The law has terrors for the most of us, even when we are perfectly innocent, and no one willingly enters a court of justice except as a spectator of some interesting case. At the same time, it is not always possible to avoid being dragged into litigation, and professional men are peculiarly liable to troubles of this sort. They may be the meekest and most peaceable of men, and they may be wise enough to avoid quarrelling with their neighbours to such an extent as to render the intervention of the law necessary, but they never can tell when they may be called upon to act as witnesses in a law suit. The prudent veterinarian has always this possibility in view, and acts and speaks constantly as if he were aware of the possible intervention of the grim judge or the unscrupulous barrister in the transaction in which he may be engaged. And this is no idle terror. A surgeon may be quite sure of his case in his own mind and quite conscious of his own rectitude of purpose and professional skill, but it is quite a different thing to convince others of this, especially those who have no professional knowledge, and more especially when the aim of those others is not to elucidate matters and to arrive at the simple truth, but to baffle and confuse a witness and get him to say what is apparently contradictory and inconsistent, and so to prejudice his testimony.

The book which we have before us is one of a series of works on veterinary medicine, published by Messrs. Baillière, of Paris, and forming a Veterinary Encyclopædia, of which Monsieur C. Cadéac is the editor. The mere mention of this fact ought to convince our readers of the truth which we endeavoured to elaborate in our March number, that these things are better managed in France than in our own country. In England we find occasional and spasmodic efforts made by our veterinary surgeons to deal with special points of interest, as in the paper read by Veterinary-Captain Butler, and the remarks made thereon by Professor Penberthy and others, at the February meeting of the Central Veterinary Medical Society, which we reported in our March number, but no attempt has yet been made by any English veterinary specialist to codify the laws relating to the profession. Here is a fine opening for our young and ambitious surgeons to make a name and reputation for themselves. Let them take M. Gallier's book as a model; let them be, like him, "*clair, succinct, précis et complet.*"

In his introduction, M. Gallier defines *Médecine Légale* (or medicine from the point of view of the law) as "The totality of those special cases in which the testimony of the expert is required," and he goes on to say, with perfect truth, that the cases in which legal tribunals need to avail themselves of the skill and experience of practitioners are very numerous, and come under both civil and criminal law. He details the points which he afterwards elaborates in his book, and shows that veterinary practitioners have to give evidence, for example, in connection with vice in animals, which renders sales void, also

with the sale of cattle for slaughter; further, they have constantly to give their opinion in the case of animals that have been insured, and state whether death or injury has been brought about by natural causes, such as fire or lightning, or otherwise. Then the veterinarian is consulted as to the existence or non-existence of contagious diseases and their period of incubation; he has to give his opinion as to wounds and injuries alleged to have been inflicted deliberately, on poisoning, on commercial frauds, on adulteration of food-stuffs, and, in order to enable him to do all this, M. Gallier maintains that veterinary legal medicine has become quite a science by itself, has its own special modes of investigation and procedure, and ought to be specially studied in all veterinary schools. He gives a warning, however, to students of this branch of science, and quotes from Professor Brouardel: "The medical legist can and ought to know the law, but he has no right to interpret or debate it; he must never forget for a moment that he is a physician and only a physician." M. Gallier says that this precept is as applicable to veterinary men as to physicians, both of whom are sometimes inclined to trespass on the territory of the lawyer.

M. Gallier goes on to give, in a very minute and precise way, the phenomena which accompany and succeed death in the lower animals, and advises the practitioner as to the best way of ascertaining the causes which have brought this about, instructing them as to the proper mode of conducting *post-mortems*, so that they may be quite ready to answer fully and unhesitatingly the questions put to them by counsel. He has an interesting page on the starvation of insured animals.

A very important chapter is the one devoted to wounds and injuries (*blessures*). This comprehensive word, *blessure*, M. Gallier defines as applicable "not only to every local lesion with or without solution of continuity, produced instantaneously by the action of external violence or by inordinate muscular contractions, such as contusions, fractures, burns, muscular lacerations, and all kinds of wounds (*plaies*), but also to any lesion, however slight, which has for result any affection of the body, any influence upon the health of the animal," and he goes on to say, "we must thus consider as real injuries (*de véritables blessures*) inoculation of contagious diseases by mediate or immediate contact." We commend this chapter to our readers, both on account of its admirable clearness of thought and neatness of expression, and its fulness of matter. "*Ce qui n'est pas clair n'est pas français*" is thoroughly illustrated here. Everybody may find something to interest him in this chapter, the general practitioner all through, our military readers in the section on "*Plaies par armes à feu*" and "*Plaies produites par les balles*," our Leeds friends in the section on *rabies* (*rage*), and so on. A chapter is devoted to accidents by lightning, and is full of fascinating detail and suggestion throughout. In it M. Gallier says, "The lower animals are more susceptible to the influence of lightning than is man," and he quotes Flammarion, who states (*l'Atmosphère*, p. 738):—"Horses led by a groom, herds of oxen, and flocks of sheep are more frequently killed by lightning than human beings." M. Gallier does not confine himself to France, or even to the Continent, but mentions two curious cases, one of which occurred at Dover, and the other on the banks of the Tweed, as reported by a Mr. Brydon. We can refer only for a moment to M. Gallier's page treating of accidents caused by bees; we do so merely to show how fully—though succinctly—the whole subject is treated by the writer.

From a chapter on vice and restiveness, we extract the following passage quoted from Zundel: "There are excitable (*chatouilleux*) horses which lay back their ears and show their teeth as soon as one approaches them, and yet which are not vicious on that account; there are horses which bite or kick when they are being groomed, and yet are not vicious; there are horses

which are vicious towards some men, and quite gentle towards others; one horse cannot stand the sight of a uniform, but is quite tractable to a civilian; another dislikes a man in a white jacket, but submits quietly to a man in a black coat. The number of animals becoming vicious by accident, say, by having been ill-treated in some operation or by suffering from some deep-seated trouble, some injury or irritation, is very considerable. How often has it not happened that a horse naturally good-tempered has given a vicious kick accidentally? How is the expert to distinguish between chance kicks and habitual kicking?" These are some of the difficulties against which we veterinarians all over the world have to contend.

Chapter VIII. is devoted to the duties which fall upon the veterinary inspector of markets and slaughter-houses, and is, like the others, full of minute and curious information, tersely and clearly stated, and ought to be read and re-read by all our readers who have duties of this kind to perform. Let our students be encouraged in their studies by the following passage:—"The anatomical examination of the pieces of flesh supplies us often with important facts which sometimes enable us to determine absolutely the species of animal. M. Goubaux, when lecturing to us students on the *scapula*, never failed to relate a curious experience of his own in connection with a Paris butcher suspected of selling *cat* for rabbit! The distinct difference in the shoulder-bones enabled the distinguished Alfort professor to expose the fraud."

The last chapter, a very long one, of Part I. of M. Gallier's book is devoted to the thorny subject of the insurance of live stock. We have space for only a short quotation. "Some insurance companies have one or more veterinary surgeons attached to their service, in whom they place full confidence, and who constitute a sort of medical council. But generally, as it is difficult and expensive besides, to transfer these men from place to place, the companies refer their cases either to the veterinary surgeon of the party insuring or to their local agent. If they apply to the ordinary surgeon of a stock owner for information as to the condition of the animals which it is proposed to insure, this surgeon may find himself in a very embarrassing situation. If he gives thoughtlessly and carelessly a certificate stating that all the animals may be insured and are valued at their real worth, not only does he commit a blameworthy act, but he exposes the party insured to the risk of losing his indemnity in case of accident. If on the other hand he is faithful to his duty, and follows the dictates of his conscience, and refuses to certify what he knows to be contrary to fact, he runs the risk of losing a client. Thus, for the above reasons, we should prefer that in all important centres the companies should have their regular consultative surgeons, men whom an honourable and blameless career has placed beyond suspicion, and that these men should be entrusted with the certification of all animals for insurance. We admit this is a delicate matter, and we know that many companies, wishing to maintain friendly relations with all veterinary surgeons, would rather run the risk of making blunders than offend men who, for the most part, are worthy of all the confidence that is reposed in them."

In Part II. of his book M. Gallier goes very fully into the subject of responsibility of veterinary surgeons—a very harassing and difficult matter, and one which has given rise to infinite annoyance to our profession. He divides this chapter into various sections, such as the responsibility following on (*a*) accidents during operations; (*b*) accidents following on castration; (*c*) accidents following on bleeding, firing, blistering, etc. Regarding accidents during operations, our author states that they are of two kinds, the one kind depending on fortuitous causes, impossible to foresee, and the other on want of care on the part of the operator. In the former category he places such accidents as those in which a horse, cast with all possible care and all the

ordinary precautions, has fractured the tibia or the femur by the mere efforts of muscular contraction, or one mentioned by Bouley in which a fractious animal, which on being cast, ruptured its diaphragm in falling, and died immediately. In the latter category he places accidents caused by want of care on the operator's part in not providing a sufficiently soft bed for the horse to lie on whilst under operation, or in not drawing the legs together in such a way that the horse may *lie* down and not *fall* violently. Following this we have a long note prepared by M. Bouley, the French veterinary surgeon, for the guidance of counsel in a case that came before a law court at Rouen. A horse had fallen during an operation (the application of a seton under the belly) and had fractured the *ilium*, and the question which M. Bouley had to answer was, whether this operation ought to have been performed in a standing or a lying position and, if in the former, what precautions ought to have been taken against accidents. M. Bouley's *Note à consulter* is delightfully lucid and instructive, and we regret we cannot quote it at length. We will only state that, as a result of M. Bouley's advocacy, the court gave sentence against the pursuer and acquitted the surgeons of all blame and granted them their expenses. We are tempted to quote a case in which a surgeon, who had in bleeding a horse pricked the carotid artery, was sued by the owner for damages at the court of Bordeaux; in this case also the pursuer lost his case and his expenses through the intervention of MM. Dupont, Grousset, and Bailliet, whose elaborate justification of their colleague is given by M. Gallier, but is too long for quotation. We have next some dozen pages devoted to accidents resulting from firing and blistering, which we recommend to those of our readers who are interested in such matters. Then we have a passage dealing with the responsibility of surgeons as mandatories in the purchase of animals, and another dealing with their responsibility as inspectors of butcher-meat.

M. Gallier devotes a long chapter to the responsibility of empirics and shoeing-smiths, and then proceeds to discuss the responsibility of stud-grooms and owners of stallions. In this latter connection he quotes two very graphic and interesting statements by M. Bouley, on "the doing of the deed of kind," in which the eminent *savant* treats of "*erreurs de lieu*" very ably and very clearly, but we are almost afraid to quote them here. Our readers who have not forgotten their French will find much to instruct them in these chapters.

In Chapter VII., M. Gallier gives his readers information as to the responsibility of owners of livestock, and treats of such questions as accidents caused by horses when the owner has been guilty of no negligence, and could not have foreseen or prevented the accident; accidents to which the injured party has contributed by his negligence or imprudence; accidents caused by a horse being startled by a passing train; accidents caused by runaway horses, or through defective harness, and so on. He next goes on to the responsibilities of innkeepers and proprietors of livery-stables, and then discusses the subject of hiring. We will conclude our review of this interesting book by quoting a short passage from the last-mentioned section. "The difficulty is quite great enough when we have to estimate the *depreciation* caused by injury to a horse, but it becomes very much greater when, in the case of an animal that has been hired and has been attacked by sickness or affected by lameness, we have to assign the *cause*, and say, in fact, whether the lender or the borrower is to blame. These are the cases in which a great deal of tact and skill is demanded of the practitioner, and as to which we can give only general indications. In certain circumstances, even the examination of the horse is insufficient to allow the expert to come to a proper conclusion. A horse, let us say, returns to the stable foundered: he may have been overdriven, forced to go at too rapid a pace, but the foundering may be the result

of chance causes, and no blame may be attachable to the party who hired him. Again, a hired animal is seized with severe colic pains, there is intestinal congestion, and he dies. Is the hirer responsible? Yes, in principle, but no in fact, if he proves that from the very beginning of the trouble he had the animal carefully looked after, and called in a surgeon; if, above all, the *post-mortem* establishes incontestably that the colic, being the result of former lesions, might quite as well have come on while the horse was in his owner's hands. It would be the same if death had been brought about by any disease of old standing, against which all the efforts of science would have been unavailing."

M. Gallier devotes a good many pages to the explanation and discussion of railway law and railway regulations as bearing on the transport of animals, and he gives interesting facts relating to the responsibility of railway companies for injury to animals during transport, at level crossings, and so on, but to the English reader this is, perhaps, more curious than valuable, as the laws of the two countries differ. M. Gallier then treats of the rights and privileges of veterinary surgeons, and the fees exigible by them; of the law relating to the sale of practices, veterinary pharmacy, and patent medicines.

We heartily commend this book to English surgeons, every one of whom may find something to instruct and interest him. All who have at heart the welfare of the profession, and aim at its advancement, by legislative measures or by internal reform, will derive benefit from the perusal of M. Gallier's work.

Proceedings of Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

Nominations of Candidates for Examinerships.

THE following are the nominations made up to March 13th. Gentlemen intending to offer themselves or to nominate others must send in the notice in writing to the Secretary before March 20th.

CLASS A.

Anatomy (Bones, etc.):—		
W. A. Taylor	by	A. Lawson
M. Hedley	,,	M. Hedley
W. H. Bloye	,,	J. Penberthy
E. Wallis Hoare	,,	A. Lawson
R. Moore	,,	R. Moore
E. F. de Jong	,,	W. J. Mulvey
Chemistry:—		
H. Somerville	by	W. J. Mulvey
H. M. H. Munro	,,	W. A. Edgar
J. Hunter	,,	H. Thompson
Jas. Hendrick	,,	J. Hendrick
Thos. Drinkwater	,,	S. Stockman
Biology:—		
E. F. de Jong	by	A. Lawson
J. R. Green	,,	J. F. Simpson
W. B. Walters	,,	W. Williams
J. Vaughan	,,	W. Williams
— McAlpine	,,	— McAlpine

CLASS B.

Anatomy of Domestic Animals :—		
W. F. Peacock	by	W. F. Wragg
G. Fleming	,,	Jas. McCall
J. Vaughan	,,	W. Williams
R. Moore	,,	R. Moore
Histology and Physiology :—		
F. Smith	by	R. C. Trigger
Noel Paton	,,	R. Rutherford
J. B. Haycraft	,,	J. McFadyean
Stable Management :—		
E. Wallis Hoare	by	E. Faulkner
W. Wilson	,,	W. Duguid
T. Hopkin	,,	A. Lawson
C. Sheather	,,	G. Elphick

CLASS C.

Pathology and Morbid Anatomy :—		
Dr. Hamilton	by	J. A. Dollar
A. J. Haslam	,,	T. D. Lambert
J. B. Wolstenholme	,,	E. Faulkner
J. B. Gresswell	,,	A. H. Sugden
J. Sims-Woodhead	,,	W. J. Mulvey
Materia-Medica and Therapeutics :—		
F. Dun	by	R. C. Trigger
Jas. Clark	,,	H. Kidd
Hygiene :—		
Jas. Clark	by	H. Kidd

CLASS D.

Veterinary Medicine :—		
J. R. Cox	by	Jas. McCall
W. Duguid	,,	J. F. Simpson
J. Malcolm	,,	J. Abson
J. Clark	,,	R. Rutherford
G. A. Oliphant	,,	G. A. Oliphant
W. Woods	,,	H. Kidd
H. Olver	,,	H. Kidd
J. Freeman	,,	F. W. Wragg
Veterinary Surgery :—		
H. Olver	by	J. Abson
T. Hopkin	,,	A. Lawson
Jas. Clark	,,	J. Abson
G. A. Oliphant	,,	G. A. Oliphant
W. Woods	,,	H. Kidd
T. B. Goodall	,,	W. A. Edgar
R. J. Hickes	,,	W. O. Williams
J. Freeman	,,	F. W. Wragg

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE thirty-third annual meeting and dinner of the Lancashire Veterinary Medical Association was held at the Grand Hotel, Manchester, on Friday, February 8th.

Present :—The President, William Dacre, Esq., occupied the chair. About 40 members and guests were present, among whom were Professor Williams, William Hunting, Esq., President of the Royal College of Veterinary

Surgeons; James Cook, Esq., President of the Yorkshire Veterinary Medical Association; Professor Young, Dean of Owen's College, Dr. Delépine, Dr. Niven, Medical Officer of Health for Manchester, and Veterinary Captain Appleton.

Business.

Mr. LOCKE proposed, and Mr. WOLSTENHOLME seconded, that Mr. Joseph Hall, M.R.C.V.S., Ashton-under-Lyne, be a member of the Association.

Mr. E. FAULKNER proposed, and Mr. HOPKIN seconded, that Mr. H. B. Allon, M.R.C.V.S., Edgar Street, Accrington, be elected a member of the Association.

Nominations for Membership.

Mr. WOLSTENHOLME nominated Mr. J. H. Taylor, M.R.C.V.S., Manchester.

Mr. HOPKIN nominated Mr. Robert C. Moore, M.R.C.V.S., of Manchester.

Consideration of Question of Jubilee Memorial.

The SECRETARY read a communication received from Professor Macqueen respecting the question.

Mr. FAULKNER, in connection with the Jubilee Memorial, said it was well deserving of every possible consideration and assistance that the association could give to it. It was the first movement of such a character that had been made in the profession. It had a twofold object, the first to perpetuate the memory of those gentlemen who exerted themselves and succeeded in obtaining for the veterinary profession their first charter in the year 1844, by erecting a tablet in the council chamber of the Royal College of Veterinary Surgeons, setting forth their names in connection with it; and second, if sufficient money be obtained by the individual and collective efforts of the members of the profession to found a scholarship. As to whether it should be for students or post graduates it was not decided, but he believed it would be decided by the council of the Royal College of Veterinary Surgeons. He then directed their attention to a few remarks made by Professor Macqueen, published in the *Veterinary Record* for December 15th, 1894. The Midland Society had promised £50 to the Memorial and he thought the Lancashire Veterinary Medical Association should give the largest possible sum it could afford for this worthy object. He considered a good scholarship for post-graduates would be of material advantage to the profession. He moved that the association subscribe £25 to the memorial, and if in another year the association could afford it, the question of a further £25 being subscribed should be considered.

Mr. LOCKE pointed out that the society was bound for £25 to the British Institute of Preventive Medicine. This and the £25 for the memorial would take almost all the society's funds. If the members proposed that £25 be give now there was no reason why in 12 months another £25 could not be subscribed if they could afford it. He stated he would be very pleased to second Mr. Faulkner's proposition if the latter gentleman would make it £25.

Mr. FAULKNER being agreeable, Mr. LOCKE seconded the motion. Mr. Locke also pointed out that questions of so much importance (as the one under consideration) to the college itself and to the graduates, he did not see why the Royal College of Veterinary Surgeons should not endeavour to show the various societies and the profession generally a better example.

Mr. DACRE stated he was prepared to put Mr. Faulkner's motion forward to the effect that £25 be paid to the Jubilee Memorial Fund by the society at once. Personally he thought with Mr. Locke that the Royal College of Veterinary Surgeons behaved in a very mean and shabby way in the matter and they ought at all events to have shown a better example. As it was, he considered the question should be discussed when the society's treasurer was present. This was carried unanimously.

Mr. DACRE in introducing the question of the recent Board of Agriculture Order in relation to rabies, said Mr. Hunting, President of the Royal College of Veterinary Surgeons, was present, and no doubt he could give the members more information on the subject.

Mr. HUNTING said: Concerning the recently issued circular of the Board of Agriculture, it consists of four paragraphs and is addressed to the local authorities of Great Britain. It says that it is desirable to arrive at some definite information as to the cause of death of dogs killed suspected of rabies, that the anxiety of any person bitten may be allayed. It provides for this by sending the dog to Dr. Sherrington. It tells us to cut off the head and send it up, and even if the dog has been buried 14 days you still cut the head off, but the Board of Agriculture recommend experimental inoculation with putrid matter which has been buried 14 days. Clearly, I think, veterinary advisers have had no hand in the matter, and have never been consulted about it. Again, you will notice the Board of Agriculture are going out of their department altogether. When the meat and milk question was brought before them they quietly shelved it, stating they had nothing whatever to do with the transmission of diseases. The other references of the chairman to the relative position of the Board of Agriculture to the veterinary profession you know as well as I do. You know we have only two advisers instead of three. You know Mr. Cope has not got the title his predecessor had. Apparently the Board of Agriculture do all they can to ignore the veterinary profession and annoy them whenever they can. I think it is time we endeavoured to stop it in some way and take some action for our protection.

Professor WILLIAMS said he thought that if the matter were discussed at the annual meeting in London, it would have a chance of coming before the authorities with far greater force than from a local society.

Mr. HOPKIN said the veterinary profession had been very badly treated, and asked if it would not help the matter if the profession brought all their influence to bear upon the members of Parliament and let the world hear something about it.

Mr. FAULKNER said he would be very pleased to support what Mr. Hopkin had stated, and suggested that an intimation be sent to the R.C.V.S., directing their attention particularly to the matter of the action of the Board of Agriculture in the administration of its department as affecting the members of the veterinary profession, and asking them to deal with the matter and take some special action.

It was proposed by Mr. T. HOPKIN, and seconded by Mr. G. GARTSIDE MAYOR, "That the Council of the Royal College of Veterinary Surgeons be requested to take such steps as it may deem most expedient to cause a change in the policy of the Board of Agriculture, which, under the present administration, is failing most lamentably in its work, insulting and ignoring the veterinary profession on all possible occasions, placing men in positions for which they have no qualifications, and causing an enormous and extravagent waste of the public money without effecting the purpose for which the department was created. Also, that a copy of this resolution be sent to all the veterinary medical societies, and that every veterinary surgeon should, without delay, lay the facts before their local and any other members of Parliament likely to help in remedying this scandalous state of affairs."

Mr. HOPKIN proposed, and Mr. MAYOR seconded, that a memorial should be sent to the Royal College of Veterinary Surgeons for the Lancashire Veterinary Medical Association.

Professor WILLIAMS proposed that the copy of the memorial to be drawn up for the Royal College of Veterinary Surgeons should be sent to the president and secretary of all the veterinary medical societies in Great Britain.

Mr. WOLSTENHOLME seconded, and the proposition was carried unanimously.

The SECRETARY read a letter from Mr. James Sumner, tendering his resignation.

A resolution was passed that a letter of condolence be sent to Mrs. Walley.

President's Inaugural Address.

My first duty this evening is to thank you for the honour of electing me for a third time to occupy this chair. When I think of the fifteen years that have passed since I presided over the meetings of this society, my feelings are of a mixed character—satisfaction on the score of sound progress made in the profession, and sorrow for the many dear friends we have lost during this period of time.

As a veterinary society pure and simple I am afraid we have not made much advance, although as a machine for voting and for political purposes the society has legitimately extended its usefulness. What has struck me, and must also have attracted your notice, is that, although this society is constantly enrolling new members, the average attendance at its meetings is but poor, nor are those meetings attended by the very men we most wish to see, viz., the young practitioners. The vitality of these Associations can only be maintained by the introduction of subjects for discussion of general interest and practical usefulness, and, although I do not deprecate the occasional reading of papers of important character and scientific interest, I do not think it is a healthy thing for this society, or any parallel one, to rely upon extraneous aid too frequently. Our feeling of self-respect should teach us that we have abundance of local talent to carry on the scientific business of this society.

I need not remind you that the success of a society such as this largely depends upon the loyal support of its members towards the officers they have elected, and it lies in their power to make this society successful, both from a scientific, and, what is quite as important, a social point of view. I must apologise for the time I have taken up on this subject, on which I am afraid I have been lecturing. Fifteen years ago I find myself saying "That the formal appointment by the local authorities of veterinary inspectors of districts is a tardy step towards the recognition of the public utility of the profession, and may lead to the organization of a veterinary sanitary service." What is our position to-day? It is this, that instead of the veterinary profession being recognised by the Board of Agriculture, it is in danger of being put aside, and positions formerly occupied by veterinary experts are to be filled by soldiers and sailors. In fact, the Board of Agriculture are meditating an indignity to the profession of an aggravating and intolerable character, and one against which I hope to see the whole profession in arms. We naturally look to one of our best fighters to lead us in this matter, and I dare venture to assure the President of the Royal College of Veterinary Surgeons that he will be strenuously and loyally backed by the members of this society, and I should hope by the whole body of the profession, and supported, I feel sure, by the sympathy of the public in any measures to bring to light what threatens to be a serious scandal. Whatever steps are taken in this matter should be taken at once, and I hope to hear later something more on this subject from one better able than myself to deal with the exigencies of the situation. The lengthening of the period of study in the school does not seem to meet with universal approval, nor can I see any reason to increase an already overburdened curriculum. Professor Limont, however, pointed out the other day that zoology might come in useful. When the retired sailor had taken full possession of the pleuro-pneumonic cow, the veterinary surgeon might be asked to take charge of an oyster bed. Of the Institute, or proposed Institute of Preventive Medicine, I can say nothing, as I only imperfectly understand its aim and object. The practical results of experiments with mallein and

tuberculin seem to have been extremely satisfactory, and there is now no doubt we have in them two agents of the very first importance in the diagnosis of glanders, farcy, and tuberculosis. I cannot draw these few imperfect words to a close without calling your attention to the grievous loss this society and the profession generally have sustained in the death of the late Principal of the Dick College. To many of us he was a personal friend, and we all recognised the sterling merit and indefatigable honest work by which he attained a high position in the veterinary profession. And now, gentlemen, in conclusion, let me assure you that I will, during my term of office, with your assistance, try to maintain the dignity, and, I hope, increase the usefulness, of the Lancashire Veterinary Medical Society.

Mr. FAULKNER proposed, and Mr. JNO. LAWSON seconded, that a vote of thanks be given to the President for his interesting address, which was acknowledged.

Dinner.

The PRESIDENT in most appropriate language proposed the toast of "The Queen."

Mr. LOCKE proposed the toast of "The Prince and Princess of Wales and the rest of the Royal family."

Mr. G. GARTSIDE MAYOR, in proposing the toast of "The Navy, Army, and Auxiliary Forces," said the duty which had been placed upon him could have been performed more effectually than he could, but he was supported by the fact that the English Defence needed no recommendation, it carried itself by its own weight. The bravery of an English sailor lad was proverbial. Tommy Atkins also could not very well be beaten. He had no doubt that if the Auxiliary Forces were called upon to do anything for their country they would do it well. He recited Clement Scott's "Charge of the English Guards at Kassassin."

Veterinary Captain APPLETON said he felt it an honour and a pleasure to respond to the toast of "The Navy, Army, and Auxiliary Forces," which had been proposed and accepted in such an able and patriotic manner. As to the navy it spoke for itself, being England's first defence, and being acknowledged by everybody to be the premier navy in the world. Respecting the army, he thought from what it had done abroad and from what strangers had said, that it was the best equipped and manned in Europe; of course, in numbers it was far behind, but it was something to have the best equipped and manned. Speaking of the Auxiliary Forces he said they could be depended upon in every way. In concluding he thanked the company for their kindness.

Mr. WOLSTENHOLME said he had very great pleasure in proposing the toast of "The Medical Profession," a profession which brought out the best qualities of every man. In its relation to the veterinary profession it had always been of the kindest and most helpful nature possible. At the commencement of the veterinary profession the medical profession came to its assistance and nursed it into its present state, and he hoped the veterinary profession along the line had been attentive and derived something from it. That the medical profession was pre-eminent was unquestionable as the health of the human being was much more sacred, and of much more monetary value than a lower animal. The veterinary profession profits by the advance which the medical profession makes. He said the position of the veterinary profession at the present time was very different to what it was 50 or 20 years ago. It had advanced, and was advancing, and the medical profession was very pleased to acknowledge the advance which it had made, and to admit it with pleasure into departments which 25 years ago the veterinary surgeon did not aspire to or take any part in. The veterinary profession at the present time had aspirations as well as duties, and those aspirations were to do something more for the public weal than it did. It aspired to be with officers

of health in endeavouring to eradicate and alleviate diseases amongst the lower animals. He was particularly pleased that two representatives from Owen's College were present at the Society's Annual Dinner. He remembered Owen's College located in the street (Quay Street) in which he now lived. From so small a beginning it had risen to the present magnificent establishment. He also remembered an insignificant school of anatomy in Pine Street, and from that small commencement it had risen to Owen's College Medical School, in which there were rooms and equipments, probably second to none in the Kingdom, for the teaching of medical knowledge and scientific advancement of the medical profession. The medical profession in Manchester had been most sympathetic with the veterinary profession, inasmuch as it had opened its doors to the latter as past-graduates to take up any course that could be taken up by an ordinary medical practitioner. In turn the veterinary profession ought to do its level best in this particular direction and he felt sure if it tried it would do it. He had the greatest pleasure in asking the company to drink the health of the medical profession.

Professor YOUNG, in replying to the toast of "The Medical Profession" said: This is not the first time it has been my good fortune to be at your hospitable board and I hope it will not be the last, and as a necessary corollary of that statement I might be allowed to say that it is not the first time I have been asked to respond to this toast. I do not know how I can find new words to reply for the profession to which I have the honour to belong, and I am glad in a sense there is no necessity because I see that this toast is signalled out as being at any rate of so much importance that it requires two people to respond to it. I shall throw over the responsibility to Dr. Niven. I always enjoy myself at your dinners. I am sure Dr. Niven will respond for the medical profession in terms which are perhaps more appropriate to the dignity of the profession, and that no one is more directly concerned with the work of the medical profession than he is. It seems to me that from a casual observation I am bound to admit that since Dr. Niven was appointed to his responsible position as medical officer of health for this city there has been a notable diminution in the death rate. I wondered why it was there was a notable diminution in the death rate. Of course, I knew Dr. Niven's responsibility, but it was not until Mr. Wolstenholme's speech was audible to me that I really got an absolute and accurate knowledge as to the true cause. I may have misinterpreted him somewhat, but I am perfectly certain of one thing—that not only Dr. Niven, but the medical profession generally, have nothing but good to gain from an intimate association with those of our professional brethren who deal with comparative pathology and comparative medicine and surgery. I regret that you have put this toast into your list at all as a separate toast; I want to lead up to this point. Seriously, and apart from all banter, I hope the time will come when there will be no severance of the two professions. Surely we are departments of one great profession. There is no distinction; the distinction is in our patients. The latter, I hope, are sacred to us in the truest and broadest sense. I am not going to pit a human being against a lower animal, but certainly the patient submitted to either the medical or veterinary practitioner is the most sacred object with which he has to deal. There should be no distinction between us in points of this kind. I hope the distinction will rapidly disappear, and that we will go hand in hand helping each other. I am sure that I am only speaking what every member of the college to which I happen to belong to my own advantage, and to my very great pleasure, feels. I am confident I am simply uttering in their name this definite statement, that anything we can do to, or anything in which we can advance the interests of your great profession, knowing as we do full well that we are advancing our own simultaneously, we shall be most happy in every way to do. I should almost like to deal at some length on

points of this kind, but the toasts are very long. We have with us a very distinguished representative of your profession in the person of Professor Williams, who I know from past experience has shown a very hearty co-operation in every true advance of veterinary and medical work. Let me first tender my expression of grateful thanks to Mr. Wolstenholme for the extremely kind terms in which he has alluded to the medical profession, and to equally accord my thanks to you for the acceptance of that toast. I thank you most heartily and cordially.

Dr. NIVEN, Medical Officer of Health, Manchester, said: Mr. President and Gentlemen, I thank you very heartily for the munificent hospitality which you have given us to-night. We have had an excellent dinner and splendid company, and altogether we have enjoyed ourselves immensely. No doubt the bonds between the veterinary and medical professions are getting very much closer in recent years. The former profession are now assailing those complex questions of preventive medicine with the same vigour and audacity which the latter profession have given to them. It is now about 20 years ago since two distinguished medical men respectively, Dr. Veelmar, and that very distinguished veterinary surgeon, Chauveau, between them succeeded in showing that tuberculosis was an infectious disease, so that we owe it no less to the veterinary profession than to the medical profession for the complete demonstration of the nature of that disease, and although Koch has worked out the way, still we owe it very largely to the veterinary profession that the original discovery in that respect was made, and since then they have shown equal energy with the medical profession in tracking out the various ways in which consumption is conveyed, so that now we have come to the point where we must join hands in the prevention of that and many other diseases. The methods in the medical profession of cure are slightly different to the veterinary profession, but with regard to the preliminary aspects of disease the methods are the same, and when I was in Berlin last year I was much struck with the great advance the veterinary profession had made in that city. In Berlin all the cattle which are killed are taken to one common abattoir and there are subjected to the most rigorous veterinary criticism. If there is the slightest appearance of disease the animal is sliced up into a number of small pieces which are microscopically examined by girls. I hope the time is not very far off when something of the same scientific rigour will be applied to the food supply in Manchester, for I think there is no way in which the admirable training which veterinary surgeons now receive could be better applied than in securing that the food supply is good and free from disease. I will content myself with again thanking you very heartily for your hospitality.

(*To be continued.*)

YORKSHIRE VETERINARY MEDICAL SOCIETY.

Annual Dinner.

THE Annual Dinner of this Society was held at the Queen's Hotel, Leeds, on January 25th, the ex-president, M. A. W. Mason, in the chair. In addition to those who attended the meeting, M. H. A. Child, solicitor, and Mr. Gilbert Jackson took part in the proceedings.

The usual loyal toasts having been duly honoured, Captain Dibbin, 17th Lancers, responded for the "Army, Navy, and Reserve Forces."

The CHAIRMAN said the next item in their programme was "Presentation of marble clock and ornaments to Mr. W. F. Greenhalgh by the members of the Yorkshire Veterinary Medical Society in recognition of his past services as hon. secretary." It was most appropriate that the performance of this duty should devolve on the chairman, and it was particularly gratifying to him personally, that he should be the chairman by whom that pleasant duty had

to be discharged. Perhaps, in some respects, others among the members might more fittingly have made this presentation, but there was no one amongst them who could have felt more gratification than he (the Chairman) did in conveying to Mr. Greenhalgh this mark, not only of their personal respect and esteem, but as some partial recognition of his past services, to not only the veterinary profession in Yorkshire, but to the veterinary profession at large. While it had scarcely ever fallen to his lot to do anything more agreeable to his own feelings than this was, he could not but be sensible that by other gentlemen present the duty of conveying this compliment to Mr. Greenhalgh might have been more efficiently and adequately discharged. There were various reasons why he should say this, but, nevertheless, he would claim for himself that no one could have felt more pleasure than he now did in carrying out the wishes of the subscribers to this great testimonial. It was, nevertheless, but a small testimonial in comparison with the very high estimation in which the onerous duties of hon. secretaryship of the Society, as they had been performed by Mr. Greenhalgh, were held. Scarcely was it possible in any way to express or illustrate the importance which these services had been during so long a period as 13 years, especially when it was remembered what an up-hill fight it must have been at first to render such an organisation so complete and comprehensive in so great a county as Yorkshire. To have acted in that capacity as Mr. Greenhalgh had done and to have achieved so much success must have been something more than "all beer and skittles." Mr. Greenhalgh had faithfully and assiduously directed and promoted the gradual development of the society from its primitive condition until now it was found to be a highly efficient, vigorous, and influential organisation. Nothing short of such energy and enthusiasm as Mr. Greenhalgh had shown, together with a hearty love of his profession, could have yielded such excellent results. He (the Chairman) within the last few years had been brought much in touch with Mr. Greenhalgh, and therefore was all the better able to judge of the work he had had to do in upholding and spreading the membership of this society as well as its scope and intellectual utility. At certain periods in the existence of the society there had been, as there always must be in such cases, certain periods of depression, even if there were not instances of friction. For any unfortunate condition of things like that, the members would admit that they had had only themselves to blame. How could a society flourish or grow in prestige as well as in usefulness, if the members did not turn up at the meetings as in duty they were bound to do; nay, all the more so if they did not bring forward subjects for discussion or give any outward sign of an enthusiastic interest in the welfare and success of this—which he had a right to say was—a great Veterinary Medical Association. The chairman here uncovered on a side table the handsome testimonial before mentioned, and in due form presented it to Mr. Greenhalgh, which ceremony was accompanied by cheering and the singing of "For he's a jolly good fellow."

Professor WILLIAMS said how pleased he was to be present once again at the annual gathering of the Yorkshire Veterinary Medical Society, not only because he regarded it as a privilege, but because as principal of a college now, it made him remember that he was not always so. As a principal of a college he felt unusually happy because of this valuable and honourable presentation to their late hon. sec., Mr. Greenhalgh, who he was proud to say was formerly one of his most praiseworthy, creditable and successful students. Also he felt happy because along with his old and greatly esteemed friend, Mr. Carter, he claimed to be a father, and ancestor, and one of the founders of the Society. He had during the day's proceedings had handed to him by Mr. F. Somers, the new hon. sec., a most interesting document. It was no less than one of the original circulars calling together the first meeting of

Yorkshire veterinary surgeons, which had culminated in the formation of this society. Unfortunately the date was not stated upon it, but one of the signatories was "Wm. Williams, secretary, Bradford." He repeated how extremely gratified he was to be present on this occasion when so much and well-deserved honour was to be done to his old student, Mr. Greenhalgh, at the end of a rather lengthy period of services to a society which he had liked so much from the first day of his connection with it. Well, indeed, was he worthy of the mark of respect, esteem, and gratitude they had presented to him. Scarcely less pleased was he (Mr. Williams) to find that their present hon. sec., Mr. F. Somers, was also an old student at the New Veterinary College, Edinburgh. He hoped Mr. Somers' career in the secretaryship would be as successful as had been that of his predecessor; and if he (Mr. Williams) claimed to be a father of this society, along with Mr. Carter, why should he not hope, before long, to be looked up to as its grandfather? He could not, he said, but take that opportunity of saying that so long as he lived, and so long as he was able to either teach, lecture or practice, he should never forget the many happy days he had spent with professional friends all over the country, but more particularly should he remember with delight those red-letter days when he had been the guest of his Yorkshire brethren, and more especially that one day on which they were there met when honour was done to whom honour was due, in the person of their late hon sec., Mr. Greenhalgh.

Mr. GREENHALGH replied, cordially acknowledging the tribute thus paid to him by his Yorkshire professional brethren. He admitted that the society might have done more work, but it could not have done more useful work, taking into consideration the troublous times through which the officials of it had to pass. He considered that it was now in full maturity and was endowed with every faculty which should guarantee to it a successful career in the future. Not so long since a new set of rules had been framed which were in accordance with the temper, the aspirations, and the enlightenment of the last decade of the nineteenth century. Whatever he had done as secretary had been under the sanction and at the behest of the various presidents, but he had on his own part always had the success and the reputation of the society deeply at heart. He saw around that table several ex-presidents, and he thought he might venture to challenge them whether when he threw up the reins of office he did or did not leave its affairs in a more satisfactory condition than they had been in at any previous period of the society's existence. Some of the members who had a fondness for probing into past history might possibly feel some astonishment that the balance at their bankers or in the treasurer's hands at present was so small as compared with what at one time it was. He could point to a period of their history when they had £70 to the good, but it must be remembered that in a spirit of just and righteous benevolence they voted out of that surplus £50 as a solatium to the family of their old friend and colleague, the late Mr. W. Broughton, who perhaps was no less an ancestor of this society than Professor Williams and Mr. Carter could claim to be. The working expenses also had gone on increasing and necessarily so, but there was a new departure as regarded the proceedings of these societies, and that was the publication of their proceedings in the veterinary journals which had had its origin with this society. It was a new idea that interesting discussions should be placed on record in the hope that they would prove beneficial to the whole profession, whether at home or abroad, and their proceedings had been periodically reported at length. Other societies had since recognised the value of such publicity by following their precedent. Mr. Greenhalgh concluded by again returning thanks for the handsome recognition the society had made of his past services.

The VICE-CHAIRMAN (Mr. Cooke) proposed "The Royal College of Veterinary Surgeons," and in suggesting an occasional change in the place of meeting, invited this Society to hold its July meeting at Scarborough. He did not see why for once they should not combine pleasure with business. Referring to the toast, he said lately there had been some correspondence in the veterinary journals, especially with regard to the more stringent exactions now to be imposed on students, as well as a more lengthened period of studentship. Under these regulations, he could not see with sufficient clearness whether the public could be as bountifully served as hitherto, that was to say, would the supply be equal to the demand? But it was only reasonable to suppose that intending students had been prepared for this change and extension in the curriculum, and, therefore, the calm which had followed the storm could be accounted for. He approved of the action of the Council in this respect. They must keep on a par with other educational bodies in requiring additional attainments from their neophytes. This 19th century had not left much time for relaxation, and none at all for lethargy. The Council, too, no doubt, would act promptly in respect of all information laid before them as to irregularities, and he hoped the conduct of those who acted dishonourably in competition with others, would come under the censure of the chief authority. He incidentally remarked that it was 20 years since he entered the firm of Greaves and Faulkner, of Manchester, and he hoped they would not see any deeper signs of wear and tear in their old friend, Mr. Faulkner, than they did now.

The CHAIRMAN, in reply, said: The Council of the Royal College were only advancing in the same direction as that taken by other colleges and universities. There had been enmity, bitterness and strife, in consequence of their proceedings, but, undoubtedly, the steps they had taken had been in the right direction. With regard to unprofessional conduct, the Council, not so very long ago, had had a very serious discussion on the subject, and had seriously taken into consideration one of the most pronounced cases of the kind, and the course to be adopted in regard to which would shortly be decided. Another matter which well deserved deliberate consideration, was the writing of articles in newspapers upon veterinary matters, and that of giving of answers to questions, which could not but be regarded as improper intrusions upon the privileges of every duly-qualified practitioner.

Mr. FAULKNER, Manchester, said their object must always be to do the best they could for the profession, and they would be glad to hear from Mr. Mason that the Council were determined to deal with cases of unprofessional conduct, however difficult a thing it might be found to do. While seeking to do what was just and right, they would not forget to temper justice with mercy, and not let their decisions press too severely upon any individual. He could testify that the Council had a great deal of hard work to do, and he could assure them that their representatives had to devote two days, at least, on each occasion when they were convened for the discharge of their duties.

Mr. FAULKNER then proposed "the Veterinary Schools," and, in doing so, expressed the pleasure it always gave him to attend the meetings of the Yorkshire Society. It was quite true he and Mr. Cook were associated 20 years ago, and therefore he was particularly pleased to be present. He thought they ought all to be thankful to the schools and the professors. The schools of the present day had advanced with the times. They were very much ahead of what they were 20 years ago. The London school was a huge establishment, capable of doing various kinds of work of a most advanced character. Its laboratory was a particularly fine one. Professor Williams' school in Edinburgh was thoroughly equipped, and capable of doing good work. The schools to-day were advancing with the times, and endeavouring to fulfil their duties as well as schools possibly could do. He was glad to see

the evergreen Professor Williams present. For there was no man in the profession whose heart was more in his work. He was sure they all felt grateful to that gentleman for what he had done in the past, and rejoiced to find that although years were creeping on him, he maintained his health, and took as great an interest in the profession as he had done in the past.

Professor WILLIAMS expressed thanks for the kind manner in which his name had been received. They would all be aware of the drastic changes which had been advocated at the schools in the past. Now, he thought progress and reformation were all right, but he looked upon what the Council had done as nothing less than an act of revolution. It had come upon them too suddenly. He bowed with all due submission to what had been done, and would endeavour to carry out the laws of the profession. The schools had done fairly well in the past, but he thought the future looked rather gloomy. He was thankful he had so far succeeded as to be able to stand a storm of a few years' duration and come out of it with the approbation of his profession. He had sufficient to maintain him in a state of solvency for some years to come. Then he had other things to fall back upon. He had been successful as an author, and that alone would enable him to carry on this rather unhappy warfare. He believed the public appreciated the best men, and it was a pleasure and gratification to see the way in which his old students were appreciated.

Professor W. O. WILLIAMS in the first place thanked them for the support they gave him in the election for Council. He issued no circular and asked for no support, and he believed he was returned in a great measure out of appreciation for his father's work. He was once of opinion that the work on the Council would be light, but he soon found out his mistake, for sittings extending from 8 to 10 hours were common. He could assure them the colleges did their best to inform students upon all subjects. Teachers endeavoured to be original in their teaching, and if they had to consider the subjects laid down to teach, they were always getting into danger if they taught anything beyond. That had a tendency to limit the teaching. A teacher ought to teach to be thoughtful, and be recognised by the student as an authority on the subject.

At this point the Rev. F. LAWRENCE addressed the assembly. He said he was connected with the Society for the encouragement of kindness to animals. Some months ago it was resolved by this Society to see if something could not be done to elevate the position of veterinary surgeons. One speaker said they ought to occupy a higher position. It was felt that this Society and veterinary surgeons ought to be in closer touch. In a few weeks this Society would hold a meeting and he was asked to see if the Yorkshire Association would send a representative to that meeting. With regard to the examination of animals before slaughter they were heart and soul with the veterinary surgeons, as they were in everything else.

Mr. G. BOWMAN proposed "The Visitors," which was replied to by Mr. H. A. CHILD.

Mr. C. CARTER submitted "The other Veterinary Medical Societies, representatives of the Lancashire, etc." He was certain they had all recognised the work the medical associations had done during the last few years for the profession, not only in cementing the good feeling of brotherly affection, but also in giving a helping hand to the younger members of the profession who had began to earn their own livelihood. Personally, he was sure the benefit he derived from attending the meetings of the Society as a young man would never be forgotten, and it had always been a pleasure to him to come to the meetings. The work the Society had done was very great, and it was almost impossible to estimate the work they were capable of doing. The changes which had taken place in the conduct of the profession, were chiefly changes

emanating from agitation caused by the societies. Not many years ago the Council was elected by what might be called a clique, and outside that, a man had little chance of getting on the Council. Now each veterinary surgeon had discussed the burning questions regarding the profession, they sifted the matter and selected the candidate they desired and worked for his return on the Council. He was sure they would agree with him, and they were fortunate in having Mr. Mason as their representative. They owed him a debt of gratitude, for he attended to his duties honestly and thoroughly, and in a manner which was fully appreciated. He thought the meetings of the Society should take into consideration the question of veterinary politics. They had the power in their hands. If they would only combine thoroughly they could carry the whip hand in these matters. Their most sincere wish was for the success of the other associations.

Mr. AWDE (S. Durham and N. Yorkshire Association) expressed the pleasure it had given him to be present. He apologised for the inability of their President to be present, and said he had enjoyed the meeting very much. He agreed with every word Mr. Carter had said in reference to the importance of their associations. The good they had done was incalculable. They had the power if they only chose to use it. Since they commenced the association with which he was connected, it had done good work, and probably would do better in the future than it had in the past.

Mr. G. SIMPSON proposed "The Ladies" and Mr. F. SOMERS replied.

Mr. W. F. GREENHALGH proposed a vote of thanks to the Chairman, remarking that Mr. Mason had worked like a Trojan during the past year. It had been a real pleasure to work with that gentleman, and they could not do less than accord him their heartiest thanks.

Mr. MASON said it had been a honour and privilege to be the president of the Y.V.M.S. He had only done his duty, for it was the duty of any man, when elected to the position of president, to do the very best he could for the Society. Whatever faults or backslidings they may have found in him, he could assure them they were but errors of judgment. Mr. Greenhalgh would bear him out that whilst he was the head of the Society, it was always his utmost endeavour to further their interest in every possible way. He had lived so long in Yorkshire that he almost considered himself a Yorkshireman. He had never yet missed a meeting, and it would have been one of the regrets of his life had he been prevented from attending on that interesting occasion. Mr. Cooke, in his address, dealt with the importance of placing their views before the Council. He could assure them the Council was wishful they should investigate any matters and communicate the result to their representative. If they didn't know what they wanted as a body, they, representatives on the Council, didn't know what to ask for to promote the good of the profession at large. It had been said "Why don't you do this or that?" His reply was to that, "Please do this or that and we will do our utmost to bring about the reforms you desire."

The CHAIRMAN proposed the health of Professor Williams.

Mr. G. CARTER, in seconding this, said the Y.V.M.S. was formed in 1861 or 1862. He knew it had been established in 1865, when the cattle plague broke out. He held the Society had done good to the profession at large, and in its early days no man worked harder than Professor Williams.

Mr. G. CARTER, in supporting, drew attention to the new regulations of the Board of Trade with regard to district inspectors.

Professor WILLIAMS, in returning thanks, said he hoped it was not true that Major Tennant was to be appointed head of the Veterinary Department of the Board of Agriculture. Were they to be directed by a man who had been only a major in the army.

During the evening songs were kindly sung by Mr. Gilbert Jackson, Mr.

Cattle (humourist), and others, and Mr. Harry Harrison accompanied with his usual ability.

FRANK SOMERS, *Hon. Sec.*

A special meeting of the members was held at the Queen's Hotel, Leeds, on Thursday, 28th February, to consider the forwarding of a memorial to the President and Council of the Royal College of Veterinary Surgeons, respecting the employment of laymen in the Veterinary Department of the Board of Agriculture. In the absence of Mr. James Cooke, the chair was taken by Mr. A. W. Mason (Leeds), the members present being—Messrs. G. Whitehead, Batley; H. Snarry, York; S. Wharam, G. E. Bowman, W. F. Greenhalgh, Frank Somers, Leeds; Charles Steel, Dublin; Frank Scott, Knaresboro'; Philip Deighton, Riccall; J. Atcherley, Harrogate; G. W. Carter, Keighley; J. E. Scriven, Tadcaster; John Nettleton, Northallerton; James Cooke, Scarboro'.

The HON. SECRETARY (Mr. Frank Somers) announced letters of regret at inability to be present from Mr. Thomas Greaves, Professor Pritchard, and Mr. Collings (Otley). He had also received copies of resolutions bearing on the snbject down on the agenda paper from the Central Veterinary Medical Society and the Lancashire Veterinary Medical Association.

The CHAIRMAN then said he was sure the members would not cavil at the gentlemen who were responsible for the calling of the meeting to hear the views and opinions of the Society on the important question stated for discussion. It was not so many weeks since that they read in their weekly *Reeord* of a rumour that a layman, Major Tennant, was going to step into the post just vacated by Professor Brown, and thus step over the heads of Mr. Cope and Mr. Duguid, two gentlemen who had done great service both to the veterinary medical profession and to the stockowners of this country. He had gone there to listen, and did not wish to make a long speech, but he must raise his humble voice against what he might term an outrage upon their professional feelings. A layman, however eminent he might be, was not the proper person to fill a purely professional position like that of the head of the Veterinary Department of the Board of Agriculture. The proposal that a layman should direct professional men was, on the face of it, utterly ridiculous, and he was sure that if it were carried out the nation would be great sufferers in the future in case of any outbreak of disease occurring. He was of opinion that the attention not only of the veterinary medical profession should be drawn to this important matter, but also that, as far as in them lay, they should ventilate the matter in all directions. They should try to get all their members of Parliament to express to the hon. gentlemen their own views on the question and disgust at the manner in which they had been treated. They had not only to listen to this rumour about Professor Brown's successor, but certain things had been done already. The thin edge of the wedge had been introduced by the recent appointment of extra travelling inspectors. They had read that a veterinary surgeon, having some time on his hands, applied for one of these appointments, and he was told that it was not necessary for these travelling inspectors to be veterinary surgeons. However that might be, they would all be agreed that the Director of the Veterinary Department of the Board of Agriculture should not only be a veterinarian, but a veterinarian with the best possible qualifications—a man who, with his experience, should be able to cope with preventable diseases—if it were possible to obtain the services of such a man. He believed that nearly all European Governments, as well as those of Canada and the United States, relied solely on their veterinary advisers. As to the Continent, he had never heard of a layman having been appointed to such a responsible and onerous post as that of Director of the Veterinary Department of the Board of Agriculture. He

hoped the meeting would agree to a resolution on the subject. There was a meeting of the Royal College of Veterinary Surgeons on Wednesday next, and he noticed that one of the items on the agenda paper was to consider letters, in reference to appointments at the Board of Agriculture, from Veterinary Medical Societies in the country. He should be present at that meeting, and hoped to be able to give voice to any resolution which they might now adopt. He concluded by proposing the following resolution, which, he explained, was practically the same proposition as was brought before the Central Veterinary Medical Society by Professor Edgar the other day:—"That this Society communicate with the Royal College of Veterinary Surgeons, and with every Veterinary Medical Society in the United Kingdom, asking for their opinion and sanction for a deputation representing the whole of the said societies, and the profession generally, to wait upon the Minister of Agriculture; and also that members of Parliament be invited to bring the matter before their constituencies, especially stockowners, and, if necessary, call the attention of the House of Commons to the subject."

Mr. W. F. GREENHALGH said he had great pleasure in seconding the proposition. It seemed to him a shame that the veterinary medical profession should be superseded by a layman in so important a matter as the head of the Veterinary Department of the Board of Agriculture. Officers in the army might know a good deal, but they were hardly qualified to fill a position in which veterinary science was needed. He thought they would all be of one mind, that they ought, as a profession, to be properly appreciated by the Government.

Mr. G. E. BOWMAN remarked that he should be extremely sorry if the Government did not appoint a member of the veterinary medical profession to succeed Professor Brown. With regard to the resolution of the Lancashire Veterinary Medical Association saying that the Board of Agriculture ignored the veterinary profession altogether, he thought that was wrong. The Board of Agriculture were now paying more to veterinary surgeons than they had ever done—at least, that was his experience. As to the subject of travelling inspectors, it was a question whether they could get veterinary surgeons to accept those positions. He dared say they might get a few.

Mr. FRANK SOMERS supported the motion, observing that their diploma would be of little use to them if appointments like the head of the Veterinary Department of the Board of Agiculture were going to be filled by laymen. The resolution might, perhaps, appear rather strong, but if the thin end of the wedge was admitted, there was no knowing where the thing would stop. He was not so sure that some young veterinary surgeons would not like to have had the chance of being appointed travelling inspectors.

Mr. G. CARTER: That would not answer the purposes of the Board of Agriculture; they do not want experienced men; at the present time it is the veterinary surgeons who advise the travelling inspectors who come down. As to the salary of these travelling inspectors, it is not very large, and I doubt whether you would get veterinary surgeons to take up these posts for what is paid.

Mr. GREENHALGH: Do they do the work for the love of the thing?

The CHAIRMAN thought that £350 a year, with travelling expenses, was not bad pay.

Mr. CARTER: I should not like to give up practice for it.

Mr. CARTER said that he was perfectly in accord with the resolution, that the Director of the Veterinary Department of the Board of Agriculture should be a veterinary surgeon. He did not think there could be two opinions on that point.

Mr. BOWMAN said another matter for consideration was this:—Supposing the Board of Agriculture were to appoint veterinary surgeons as travelling

inspectors, it would, in the case of swine fever, do away with the inspectors appointed by local authorities.

Mr. J. E. SCRIVEN: It would not work at all.

Mr. A. W. WHITEHEAD said he was quite of that opinion.

Mr. SCRIVEN said he took it that their principal intention on that occasion was to memorialise the President and Council of the Royal College of Veterinary Surgeons to see that a veterinarian, and not a layman, was appointed chief of the Veterinary Department of the Board of Agriculture.

The resolution, on being put to the meeting, was carried unanimously.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

AN ordinary general meeting of this Society was held on Thursday, the 7th inst., at the Royal College of Veterinary Surgeons, 10, Red Lion Square, Bloomsbury. Mr. S. Villar, the President, occupied the chair. The other Fellows present were: Messrs. J. K. Bruce, Vet.-Capt. E. R. C. Butler, A.V.D., A. L. Butters, Matthew Clark, C. H. Cordy, H. Edgar, G. Easte, T. C. Garry, H. Gray, J. S. Hurndall, W. Hunting, Prof. F. Hobday, F. W. Kendall, G. C. Lowe, Prof. J. Macqueen, F. C. Mahon (hon. sec.), Joseph H. Manton, W. Roots, A. Rogerson, J. Rowe (hon. treas.), Fredk. G. Samson, J. E. Tooth, F. Orford, L. Walpole; and as visitors, Messrs. Morgan Evans, W. Perryman, W. Reekie, H. M. Durrant, and F. M. Lenox, Colyngham.

On the motion of Mr. SAMSON, seconded by Mr. BUTTERS, the minutes of the previous monthly meeting were taken as read and confirmed.

Communications regretting the inability of the writers to attend were received from Professor Pritchard, Messrs. F. W. Wragg, J. R. Cox, and H. M. Singleton.

Horse Insurance Fees.

The HON. SEC. (Mr. F. C. Mahon) read a letter dated Great Yarmouth, the 19th ultimo, which he had received from the secretary of the Eastern Counties Veterinary Medical Society, acknowledging the receipt of a communication from him (Mr. Mahon) on the question of horse insurance fees, and the views of the Central Society in relation to it, and adding, "I was very pleased to lay your letter before my society at its last meeting, and I can say on their behalf that they are more than satisfied with the support their suggestions have received at the hands of your and other societies, and they trust that the matter be brought to some successful issue."

New Honorary Fellow.

A letter was read from Mr. H. G. Rogers, 170, Brompton Road, S.W., thanking the Society for having elected him an honorary fellow, adding that this was a "distinction which he valued very highly, and he fully appreciated the great compliment paid him by the Society."

The Late Professor Walley.

The SECRETARY reported that Mrs. Walley, widow of the late Professor T. Walley, of Royal (Dick's) Veterinary College, Edinburgh, had written to him from Edinburgh, under date the 1st inst., as follows:—"Dear Sir,—Allow me to return you my most hearty thanks for the kind words of sympathy sent to me and my family by the members of your veterinary medical society. I am sure many of my late husband's friends will miss him and lament his death, as I lament the loss of as devoted and kind a husband and father as it was possible to have. Thanking you also for your kind wishes, I am, dear sir, faithfully yours (signed), G. S. Walley."

It was directed that the letter should be entered on the minutes of the Society's proceedings.

Elections and Nominations.

A ballot resulted in the unanimous election of the following gentlemen as Fellows of the Society:—Messrs. W. E. Taylor, M.R.C.V.S., and R. Porch, M.R.C.V.S., both of 9, Grosvenor Road, S.W.

Mr. W. H. Clapp, M.R.C.V.S., Lyndhurst Road, Peckham, was nominated as a Fellow of the Society by Professors McFadyean, and F. Hobday, and Mr. S. Villar. Mr. W. Perryman, M.R.C.V.S., had as his nominators Mr. W. Hunting, P.R.C.V.S., Mr. Butters and Mr. Samson. Mr. Claude A. A. Ewin, M.R.C.V.S., was nominated by Mr. F. W. Kendall, Professor Macqueen, and Mr. F. C. Mahon, and Mr. William Kirk, by Messrs. F. Samson, W. Roots, and W. Hunting.

The National Veterinary Benevolent and Mutual Defence Society.

Mr. H. EDGAR: As I proposed the adjournment of this subject for further consideration of Mr. Locke's reply, I ask your indulgence for a short time to enable me to re-open the matter. Since our last meeting I have written to Mr. Locke for a prospectus of the National Veterinary Benevolent and Mutual Defence Society, which he has very kindly sent me. In his letter he regrets the very unfair remarks I made in reference to the society and himself at our last meeting. I fail to see that anything I said could be so construed. Mr. Hurndall certainly asked for an explanation of what he considered the somewhat discourteous way this society had been treated by such a prolonged delay in reply to our communication. Mr. Locke now explains this by saying he acknowledged receipt of our circular, and stated that it would be considered at their next annual meeting, which has only just taken place. Hence Mr. Locke is exonerated from blame in the matter, but perhaps it does not seem to some of us a long time to have to wait for a reply, in a matter of such great importance. I shall not in any way apologise for re-opening this subject, because, as I have already intimated, it is a subject which is of the utmost importance to every veterinary surgeon, and it is only through such societies as these that any action can be taken. I believe since the matter was brought forward in January, 1894, some of those who signed the circular have joined the society. This action is in accordance with Mr. Locke's feelings, and his idea of the way that any defects that exist in the society may be remedied. But, gentlemen, how many members are there from the South of England who can attend the *general meeting* of this society held, as it is, in Manchester? And how many Southern men are there on the Council? One!!!

The society's reply to our circular is certainly short if not sweet. It says, "there are not suffieient grounds for the change." Now let us see if there are not. I take it that every veterinary surgeon in existence almost, is in agreement with a "Mutual Defence Society." We are almost weekly having cases brought before us showing the absolute need of such a body, but I ask the question, Is the society a mutual defence one? How often in cases which have occurred has this society lent any aid in real defence? Of course there may be many cases that are not reported, and of which we know nothing, but a paragraph on page 342 in *The Veterinary Record* of December 15th, 1894, is worth noting—"We have also had before us several claims made upon our members. The Council has been called together and the merits of the case carefully and dispassionately considered, and if found to be such as could not be defended, we have rendered personal assistance in arranging matters between plaintiff and defendant, and in such cases the fairness of the terms agreed upon has in every instance been so satisfactory that the business, friendship, and reputation of our member has been established." I ask, does this meet our ideal of a defence society? Is this coping

with the burning questions of the day? Is it helping to stem the tide of the intolerant persecutions that are increasing? I say it is not meeting the needs of the veterinary profession, and in this point there is room for a change. Would not "the mutual compromising society" be a more fitting name for this society?

I have not time now to enter into a discussion npon the various rules of the society, but I wish to direct your attention to rule 12, although it is called "the society" meaning one with a two-fold object, yet in rule 3 it says "one partner of a concern may be a member of the Benevolent branch only," and thus become a member of the society while yet not reaping any defence advantages. It does not say there are separate fees for each subscription. Then turning to rule 12, have you noticed that one farthing is the amonnt which renders a respectable amount avâilable for defence purposes into a most inadequate one? If the defence fund amounts to £399 19s. 11¾d., it is all available for defence purposes, but if anyone is kind enough to add one farthing then £400 must at once be handed over to the benevolent fund, and cannot be touched for the defence, but rather an extra call must be made upon the members. Here again, gentlemen, I think you will agree with me that this is not a model basis, and there is room for a beneficial change.

Then again turning to another paragraph on page 342 of *The Veterinary Record* of December 15th, 1894, we find, in the financial statement of the society, the treasurer states: "During the year we have had several applications for assistance in cases of great need, but unfortunately for the applicants they have failed to become members. They therefore had no claim upon our funds." Where does the benevolent come in? Should not the society be called as a Mr. *Nom de plume in The Veterinary Record* put it, a "provident" society, and yet, turning to rule 1 of the benevolent regulation, I find it stated "the object of the fund is, as stated in the preamble, to afford assistance to such of its members, their widows and orphans, as after proper inquiry may prove to be deserving objects of professional benevolence." Then again according to rule 6, petitioners must produce a certificate of good moral character, etc. Rule 8 saying the Council, after due investigation, shall, if satisfied that the case is a deserving one, etc., etc. Gentlemen, if I am a member of the society and have regularly paid my subscription, I am entitled to receive help from it, and the Council have no right to make me or mine objects of charity when we only ask for what is our legal and moral right. Please note further that there was not one penny given away during the whole of 1894. Is there no room for a change here? I leave it for you to decide if we have substantiated our request for an alteration in the basis and working of this society, and whether we do not consider these grounds sufficient for the veterinary profession.

Personally, I should much prefer one substantial defence society and one benevolent society, but entirely separate, if they could be conducted on such lines as wonld prove a mutual benefit and real help to the members; and if nothing can be done with the present society, we must canvass the whole of the profession and, if possible, start a new one to meet existing needs. If any gentlemen who signed or acquiesced in the original circular we sent out has since joined the old society, I extremely regret it, because I think in this instance they woutd have done more good outside than in.

Mr. J. S. HURNDALL: I have no desire to occupy your time, but I cannot very well allow the matter to pass over without offering a few observations. Mr. Edgar has adduced some reasons why steps should be taken to dissociate the purposes of the defence from those of the benevolent. I may say in a few words, that I arrived at the conclusion that this separation was desirable because I found that this particular Society had never at any one time sufficient funds in hand to meet the costs that would be incurred in any very serious

case. As you are aware, this Society, whose headquarters are at Manchester, were approached with the idea of dissociating the two branches of work providing they obtained a considerable accession of members, thus yielding a largely increased income for defensive purposes, and enabling the Society, in case of need, to defend a case in the High Courts of Justice. Having regard to the fact of how costs run up in the High Court of Justice, I think you will all agree with me that it would be unsatisfactory for any defence society to attempt to defend a cause in that court unless it had in hand at least £1,000 or £1,500. As I understand, it is impossible for this Society on its present basis to possess any such sum available for defensive purposes. When I introduced this matter twelve months ago my idea was that we should subscribe to a defence society that would be of real use in the case of need; that, given a sufficient income by additional members, would be enabled to conduct the work of defence in a practical and satisfactory manner. Well, gentlemen, you know that our suggestions have been submitted to the Manchester Society, and we have been informed in a very curt manner, that we are not wanted to interfere in the matter at all. Our suggestions are not worthy of consideration—that is what their reply really means. Now the question really is: are we content that the existing state of things should continue or shall we form a defence association for ourselves here in London? How that issue is to be brought about I do not exactly see, unless there is a distinct evidence of co-operation on the part of a pretty good number of members with whom we can come in touch. Failing any satisfactory response from the Manchester Society, I would suggest that we try to do something by and for ourselves, in order that we may put ourselves in the position of being able to defend a case in the High Court of Justice should the occasion arise. I will give you a further reason why, I think, it is high time we aroused ourselves to do something in our own mutual defence. If we do not soon make an effort in this direction we shall speedily be wiped out of existence by the Royal Society for the Prevention of Cruelty to Animals. I allude to the charge preferred at the Wilmslow Petty Sessions, Cheshire, by the Royal Society for the Prevention of Cruelty to Animals against Messrs. Boscoe and Lomas, which was briefly reported in the *Veterinary Record* last Saturday week. I just now spoke to Mr. Hunting, the editor of the *Veterinary Record*, about this case, and he informed me that he got the best report of the proceedings available. I am sure he did, because I am certain he is in sympathy with the views I hold, and had he been able to obtain a full report of the case I am confident he would have done so in accordance with his manifest desire to print whatever is of interest to the profession. The case is very indifferently reported. Mr. Lomas is one of ourselves—a man of high standing. He is, however, like very many of us, a poor man. The case was stated by the prosecuting solicitor to be a test case to show whether or no veterinary surgeons were responsible in cases of this description which came under their care. It was admitted to be a test case. I ask you to bear that in mind. The magistrates were unable to arrive at a decision, and this fact may be taken as a remarkable instance of what the lawyer for the defence was able to do for his clients, for in 99 cases out of 100, I have no hesitation in saying, the magistrates invariably go for the Society quite irrespective of the evidence which we as experts may adduce. I have had severe experience of this myself, and I have no doubt that many of you have had very good reason to be dissatisfied with the way in which our veterinary evidence has been disregarded in prosecutions brought by the R.S.P.C.A., a Society supported by charity, and absolutely without any *locus standi* when it arrogates to itself the right of dictating to the veterinary profession what it shall or shall not do. If you are satisfied to remain under the ban of this society, it is quite competent for you to do so. But

here is an instance which, to my mind, shows the necessity of our banding ourselves together in a defensive and protective society, and I think the occasion for such an organisation is urgent. I learn from Mr. Faulkner, who, with Mr. Hopkin and Mr. W. A. Taylor, gave evidence for the defence, that the reports of the case against Messrs. Boscoe and Lomas that have appeared in the public prints were wholly inadequate. As professional witnesses for the prosecution there was an unknown individual who lives in Manchester, and is able to affix the letters M.R.C.V.S. to his name, and Professor Pritchard and Mr. J. R. Cox. The latter gentleman went all the way from London to Wilmslow to endanger a brother professional's character and social prospects. If that is not enough to raise anyone's ire, I dont know what is. When such influential members of our profession, men holding high positions and of high standing, consent to act such a part as I have mentioned, I think it is high time we took the matter into our own hands and did something to defend ourselves. It is necessary that something should be done very quickly, as the Royal Society for the Prevention of Cruelty to Animals, having lost their test case, will not, I believe, hesitate to institute a similar prosecution at the earliest opportunity. Should they do so, the solicitor for the defence on the next occasion may not be so able a man, or the witnesses for the defence so well qualified to convince the magistrates that the case is an unwarrantable one. I feel very strongly that, unless we take efficient measures to protect ourselves, it will fare badly with some member of our profession. Had the defendants in this case been convicted, they would have been liable to a very heavy fine, or, probably, imprisonment. If you gentlemen are content to view this prospect with complacency, and allow the present situation to continue, the responsibility must rest with yourselves. Personally, I do not feel so comfortable in the circumstances, and I would take some deliberate action to protect ourselves against the arrogance of this society which calls itself the Society for the Prevention of Cruelty to Animals.

Mr. BUTTERS said that, after listening attentively to Mr. Edgar and Mr. Hurndall, he failed to find any single reason or argument why the National Veterinary Benevolent and Mutual Defence Society should alter its rules, or why they should not join it as soon as possible. Mr. Edgar spoke about rule 3. Well, it stated that a partner in a firm might become a member of the benevolent branch of the Society only. If Mr. Edgar had gone on further, he would have found that a donor of £10 to the benevolent fund became a life governor, and if a society like the Central Veterinary Medical Society made a present to the fund of £20, we have the privilege of electing a life governor in perpetuity. There was also a form of bequest by which wealthy men could leave as much as they felt disposed to the benevolent branch of the Manchester Society. He thought, therefore, as far as he could see, the benevolent branch was kept separate and distinct from the defence branch. No doubt, there were advantages in the two-fold object. He did not know why, in the first instance, the two objects were combined in one society, save that it was thought to be advantageous to both. Probably, it was thought that the society would not always need its funds for fighting purposes, and that when they had accumulated, they could be devoted to no better purpose than assisting the widows and orphans of late member of their profession. When the funds reached £1,000, £400 of that amount was devoted to the benevolent branch, leaving a balance of £600 available for defence purposes. If the £600 was found insufficient, the rules enabled the executive to call for further subscriptions, to carry out any necessary proceedings that might be in hand. Mr. Butters went on to say that he did not think that anything better than this could be done by any body of men who banded themselves together for the purpose of mutual defence. Mr. Hurndall had mentioned a case which he (Mr. Butters) thought clearly showed the

necessity for such a society as the National Veterinary Benevolent and Mutual Defence Society; and if Mr. Lomas was a member of that society, he would no doubt have received assistance from it. The disadvantages of forming an entirely new society were considerable. In the existing society the two things—benevolence and defence—were, for all practical purposes, dissociated; and he could see no reason for starting another society. His advice was that they should join the existing society, and ascertain its working, and if they were still dissatisfied, they could cease to be members, and form a new society. There was no reason why the annual meeting should not be held in London instead of Manchester; at all events, there was no rule binding the society to meet always in Manchester. The president, vice-president, and members of the council of this society were well and widely known; and the society had for its patron a gentleman whom the profession held in high esteem, Sir F. FitzWygram, Bart. When they considered the names of the gentlemen who were connected with the work of the society, he thought they would be of opinion that its affairs were conducted with that business promptitude and tact that was necessary for the settlement of disputes, whether legal or otherwise.

Mr. J. ROWE said that he had before him the last balance sheet of the society for the year ending the 31st December last, according to which out of £445 14s. 11d. received for purposes of mutual defence, only £3 17s. 6d. was expended in legal costs. For benevolent purposes £439 18s. was received and nothing expended. He hoped that this subject would be threshed out. He considered it a reflection upon the profession that only 157 of its members were connected with this society.

Mr. SAMSON said he did not rise to throw cold water upon the suggestions of either Mr. Edgar or Mr. Hurndall—far from it. He had belonged to the Benevolent and Defence Society some years. Once he needed their assistance and they afforded him all the aid they possibly could. The case was settled out of court. If it had been proceeded with he had instructions from the society to spare no expense, to obtain the best solicitor and counsel available, and to secure the best witnesses he could in the veterinary profession. What more could any society have done? With more members the society would have more funds at its disposal. It behoved members of the profession to help themselves. He regarded membership of this society as a good insurance against accidents. They insured their lives, and why should they not insure themselves against possible loss by vexatious legal proceedings? Out of 3,000 members of the veterinary profession only 157 had joined this society. They might start a new society, but he did not think it had a ghost of a chance of being well and sufficiently supported. At the same time if a new society were started he should join it. He did not mind paying two or three or even four gnineas a year. He thought they should have a strong society with something like £2,000 or £3,000 at its back.

Prof. MACQUEEN: May I ask whether Mr. Edgar has proposed any resolution?

Mr. EDGAR: I wanted first to ascertain the feelings of the members. I wanted to substantiate our action in January, 1894, which was to show that there was a necessity for altering the basis on which the existing society was conducted. I am prepared, if it is your wish, to propose that steps be taken to form a new society. I have a list of the names of the gentlemen who signed or supported the circular we sent out.

The CHAIRMAN: If no one has a motion to propose, we pass to the next item on the agenda.

On the motion of Mr. Edgar, seconded by Professor Macqueen, it was unanimously decided that a committee of the Central Veterinary Medical Society be formed to "thoroughly investigate and inquire into the subject of

establishing a Veterinary Mutual Defence Association, the said committee to consist of Messrs. Edgar, Hunting, Hurndall, Butters, Samson, Captain Butler, Professor Macqueen, and the president and secretary *ex officio*, the committee having power to add to their number."

Proposed Grant to the British Institute of Preventive Medicine.

Mr. W. HUNTING: In bringing again before your notice this matter of a grant to the British Institute of Preventive Medicine, I must commence with a little apology. It is rather unusual to re-introduce a proposal which has been referred to the Council and which the Council has negatived, but the question is one of importance, and if you remember a very much larger number of members of this society recommended the Council to make a grant to this Institute, than there were present at the Council meeting which rejected the recommodation. As I understand the sole reason given by the Council for rejecting the recommendation was that they had not the funds. Now, I have altered my motion this time, and I propose to ask for a smaller sum of money, and I further propose that the sum be not given until there is sufficient money in the hands of the treasurer to justify the disbursement. Having thus modified my original resolution I do not think I need take up much of your time, for I have thus removed the only two objections to my proposal which have been stated. I now propose "That this meeting, approving the objects of the British Institute of Preventive Medicine, recommend the Council to make a grant of £20 (instead of £25) to the funds of the Institute as soon as the treasurer of the society has sufficient money in hand." I would just add that we had a discussion on the question of making a grant to the Institute, at the last meeting of the Council of the Royal College of Veterinary Surgeons, and every speaker—except one—was in favour of the objects of the Institute. I have looked over what was said at the last meeting here when this question was discussed, and I find that the only objection then raised had reference to the funds in hand, I do not know whether there is any other objection. If, however, no one has any objection to this scientific institute, to an institute designed for the advancement of science, to this society allying itself with a National Institute for the study of pathology and bacteriology, then, I say, the only logical thing for us to do is to recommend the Council to make the grant I propose, when the state of the funds will allow.

Mr. BUTTERS: Without going into the merits of the case, I beg to second the motion.

(To be continued.)

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

THE thirteenth annual meeting of this Society was held at the Angel Hotel, Grantham, on Thursday, February 21st, 1895. In the absence through illness of the President, Mr. H. J. Goodall, the chair was taken by Mr. T. A. Rudkin, Vice-President, and the other members present were Messrs. W. H. Brooks, Hadenham; F. L. Gooch, Stamford; R. T. Hardy, Sleaford; J. Mackinder, Peterboro'; Captain Russell, J.P., Grantham; James Smith, Huntingdon; W. P. Weston, Oakham; B. Freer, Uppingham; and P. A. Robinson, Hon. Sec., Market Deeping. Mr. H. Kidd, of Melton Mowbray, was present as a visitor.

Letters of apology for non-attendance were read from Professor Penberthy, Captain Hayes, and Messrs. Goodall, Howse, Osborne, and A. Clarke, Gresswell, Bowman-Eve, and T. E. Smith.

The President in his letter expressed his sympathy with the action, now being taken by the Central, Lancashire and other veterinary medical associations, in reference to the action of the Board of Agriculture and the appoint-

ment of laymen in the Veterinary Department, and thought it desirable that the subject should be considered at the meeting. He hoped a resolution would be passed to assist what had been done by other societies in the matter.

The SECRETARY then read the following letter :—

"THE CENTRAL VETERINARY MEDICAL SOCIETY.
"93, HUDDLESTON ROAD,
"TUFNELL PARK,
"LONDON, N.

"*February 20th*, 1894.

To the Hon. Secretary, Lincolnshire Veterinary Medical Society.

"*Urgent.*

"MY DEAR SIR,—*Re* the employment of laymen in the Veterinary Department of the Board of Agriculture.

"At a meeting of the Central Veterinary Medical Society held on the 7th inst., the above subject was discussed, and a committee was appointed to consider the best means of bringing the views of the profession on this subject to the notice of the Minister of Agriculture.

"This committee has met, and has forwarded a memorial to the President and Council of the Royal College of Veterinary Surgeons, a copy of which is enclosed.

"May I, on behalf of the Central Veterinary Medical Society, ask you to bring the matter before your Association, so that the Council of the Royal College of Veterinary Surgeons may be supported generally by the profession in any action which they may deem necessary. Will you also ask your members to use their influence with Members of Parliament and influential agriculturists in this matter, with a view to its early representation in the House of Commons ?

"The Council of the Royal College of Veterinary Surgeons will, I am informed, meet during the first week of March, so that it is important that any action you may take may be communicated to them before that date.

"I am, my dear Sir,
"Yours faithfully,
"F. C. MAHON, *Hon. Sec.*

"*Copy.*

"*To the President and Council of the Royal College of Veterinary Surgeons.*

"The Central Veterinary Medical Society, which numbers upwards of 140 members of the profession, is of opinion that some united action should be taken in connection with the appointment of laymen to positions in the Veterinary Department of the Board of Agriculture, more especially as it is now rumoured that a layman is about to be appointed as its head, and this Society respectfully asks the President and Council of the Royal College of Veterinary Surgeons to send a deputation, or take some other decisive action, to bring to the notice of the Minister of Agriculture the feeling of the profession, that only veterinary surgeons should be appointed to such positions.

"It is felt that however capable a layman might be, a veterinary surgeon should occupy the position of Director or Principal of the Veterinary Department of the Board, to ensure the effectual carrying out of the Contagious Diseases (Animals) Act, and to maintain the prestige of the profession.

"It is also felt that more responsibility should be placed upon the local authorities and their inspectors.

"The Central Veterinary Medical Society has forwarded a copy of this communication to the President and Honorary Secretary of the various veterinary medical associations for their co-operation and support."

Mr. GOOCH said that at a meeting of the Midland Association last week it was decided to act with other associations in showing their utter disgust at

the way in which the Veterinary Department had been treated by the Board of Agriculture, and the Secretary was instructed to draw up a formal resolution to be sent to the Council, and, if the veterinary profession wished to be represented by delegates from these societies, that they appoint three members to represent that Society as delegates. He should now propose that this Society act in unison with the Central and other veterinary Societies and show their utter disgust at the way in which the veterinary profession had been treated by appointing laymen as heads of departments on the Board of Agriculture, and he would propose that the Secretary and one of the Vice-Presidents be a delegation.

The CHAIRMAN said he had expressed his views on this matter years ago. He held that what they should say was that they would not act in any way under them. If they said that, as members of different societies, they (the department) would soon go to the wall unless they altered these things. He expressed the same views two or three years ago when they appointed local inspectors.

Mr. JAMES SMITH said the letter read mentioned the appointment of laymen to the Board of Agriculture, but he did not know whether that referred to Major Tennant's appointment. They had all a great objection to working with or working under travelling inspectors, but he doubted whether such drastic measures as the Chairman proposed would be of any service. He pointed out that all the members of the profession were not members of associations like this, and unless they could prevail upon members of the profession generally as well as members of the associations to fight against it, they would be cutting their own throats. He suggested that a little time be taken for consideration as to the best method of supporting the Central Association in the action they were taking.

Mr. GOOCH said from what he could learn the chief objection was as to the appointment of Major Tennant, who now received £900 a year, instead of £300 as before.

Mr. MACKINDER said as one who had a great deal to do with the Board of Agriculture he did not find these travelling inspectors such men as took work out of their hands. They did not profess to know anything about swine fever, and only did work over which veterinary surgeons would not care to spend the time, cleaning the places, etc. He did not think Major Tennant principal veterinary inspector.

Mr. GOOCH: He is called Principal of the Veterinary Department.

Mr. MACKINDER: They have simply raised his salary.

The CHAIRMAN: He is the "boss" of the show.

Mr. SMITH asked if these inspectors did not use their own judgment as to carcases being fit or unfit for food, and whether they should kill animals? He asked whether it was not their duty as veterinary surgeons to examine carcases before being sent off for food, and see as to whether it was necessary to kill in any outbreak of swine fever or not?

Mr. MACKINDER said he saw carcases before they went away, not the inspectors. He accompanied these inspectors, and said what pigs were to be slaughtered or not.

Mr. SMITH: Do you get your instructions from the Board of Agriculture?

Mr. MACKINDER: Yes, and I am paid by them for doing it.

Mr. GOOCH pointed out that the average cost of swine fever cases was £10, and out of that the veterinary surgeon got £1 5s. or £1 7s. 6d. He proposed they forwarded a copy of the resolution to the Royal College of Veterinary Surgeons, asking them to deal with the matter and they would support them, and if delegates were thought desirable, that this Society should be represented.

This was seconded by Captain RUSSELL, and carried *nem. con.*

The TREASURER then submitted his annual report, which was of a satisfactory character, although showing a considerable sum due from members for overdue subscriptions. The names of three members, who were very much in arrears, were removed from the rolls of the Society.

Mr. ROBINSON proposed, and Mr. FREER seconded, that the accounts for the past year be passed, with a hearty vote of thanks to the Treasurer for the time and trouble he had expended over them and on behalf of the Society. The resolution was passed unanimously, and Captain RUSSELL, in replying, said there was a certain amount of anxiety connected with the accounts, and he should be pleased at any time to vacate his office in favour of a younger member who would have more time to bestow on the work, and, perhaps, give them greater satisfaction.

The SECRETARY said he had received a communication from the Yorkshire Society with reference to a series of articles which had appeared in the *Leeds Mercury* on veterinary topics. After a brief discussion it was proposed by Mr. ROBINSON, and seconded by Captain RUSSELL, that as the articles in question appeared to be of the same kind as those regularly appearing in the lay papers, no action be taken by this Society respecting them.

Election of Officers.

Mr. GOOCH said that, under the circumstances, they should vary their rule of selecting a new President each year, and he would propose that Mr. H. J. Goodall be re-elected President of the Association. It was through no fault of his own that he had only attended one meeting during his presidency. He (Mr. Gooch) hoped that very soon he might recover from the very serious illness which he had experienced during the past six months, and again have the pleasure of presiding over them. He was sure that no one had the interests of the Society more at heart, or regretted his inability to attend more than the President himself.

Mr. BROOKS seconded the proposition. Mr. ROBINSON, in supporting it, said they all very much regretted Mr. Goodall's absence at their meetings, and after what he had gone through they could not do less than re-elect him, in the hope that they might see his genial face amongst them again, and that during the present year he might worthily fill the place from which he had been so much missed in that just passed.

Mr. Goodall was unanimously re-elected.

Captain RUSSELL proposed the re-election of the retiring Vice-Presidents—Messrs. Howse, Rudkin, and James Smith; this was seconded by Mr. MACKINDER, and carried.

On the proposition of Mr. MACKINDER, seconded by Mr. RUDKIN, Mr. J. A. Robinson was unanimously re-elected Secretary.

Mr. GOOCH proposed that Captain Russell be again appointed treasurer; he had filled the post for several years, and he was sure that no other member could perform its duties so well.

Mr. FREER seconded.

Captain RUSSELL, in thanking the members for electing him, said that he quite understood the honour attached to the office, which he was pleased to accept for another year. If at any time they should feel desirous of appointing any one else, he should not consider it a slight.

On the proposition of Mr. BROOKS, seconded by Captain RUSSELL, Mr. H. Kidd, of Melton Mowbray, was elected a member of the Association.

The late Professor Walley.

Mr. FREER said he rose to propose that a vote of condolence and a letter of sympathy be sent to the late Professor Walley's wife and family on the death of the Professor. It was ten years this very meeting since he heard Professor

Walley address this Association, an occasion which he had no doubt would still be fresh in the minds of many of those present. He was an excellent teacher and an excellent man in every respect; as a teacher he doubted whether they had his equal in the veterinary profession. He had been an excellent husband and father, and deeply felt the sad blow which fell upon him in the untimely death of his son last summer. No doubt Professor Walley's end had been hastened by that occurrence. As a teacher he seemed to ooze out information from every pore; no one could come in contact with him even for a few minutes without learning something, and he had in an unequalled degree the art of stamping his individuality on his students. He thought it would be a melancholy satisfaction to Professor Walley's wife and family to know that he was not forgotten in far-distant Lincolnshire.

Mr. WESTON seconded, as an old student of Professor Walley's. He said he very deeply regretted his death, a regret which must be shared by all who knew him. Nothing he could say could increase the respect felt for so good a man as he was. He was an irreparable loss to the profession.

Mr. MACKINDER having supported the resolution, speaking in very high terms of the deceased Professor, it was adopted unanimously.

Jubilee Memorial Fund.

Mr. GOOCH proposed that this Association give a subscription of £5 5*s*. to the Jubilee Memorial Fund. These subscriptions were given to form a bursary and scholarship. No unnecessary expenditure would be lavished on statuary or figures. There would be some appropriate testimonial drawn up to the pioneers of the profession (of whom, he believed, Professor Simonds was the only survivor), but the principal amount would be expended in the foundation of a scholarship for all the veterinary schools.

Mr. KIDD said he should rather like to press this matter upon the Association. This Jubilee Memorial Fund was a subject in which he had taken a great interest. Several proposals had been made at the Council. They would notice that several of the Associations had supported it loyally, and every member of the profession would have an opportunity of contributing. Everyone of them, he knew, wished the utmost success to this fund. He thought it would elevate the profession in a very high degree if the object for which it was intended—the foundation of a scholarship—were carried out.

Captain RUSSELL said they had a balance in hand, and he rather thought the contribution should come out of the Society's funds than be left to the discretion of the individual members. The profession in the country was passing through a very serious crisis, and he had had it brought home to him in his own practice. He thought they must expect to do less in the future than they had done in the past. Things were at such an extreme pass as regards agriculture, that farmers could not afford to employ veterinary surgeons as they had done. He certainly thought that the object was deserving the support of the Society.

Mr. GOOCH said the Midland Association had given £50, and he thought they could afford £5 5*s*.; and he proposed that that sum be voted for the purpose.

Mr. SMITH proposed that the consideration of the subject be adjourned; and, after some further discussion, it was unanimously decided to leave the final decision on the matter till the Society's meeting at Peterboro', in June.

Mr. J. A. ROBINSON, M.R.C.V.S., then read the following paper on—

"THE PATHOLOGY AND TREATMENT OF PARTURIENT APOPLEXY."

Mr. Chairman and Gentlemen,—I have already explained to you the reason of my appearance before you to-day as the introducer of a subject for discussion, and my reasons for taking the subject which I have chosen were—

firstly, that it is one with which both myself and all the members of this Society have a practical acquaintance, and, therefore, likely to lead to a good discussion; secondly, that as it has been remarked that we have never had a paper on cattle pathology at one of our meetings, I thought the present a good opportunity to rectify the omission. I have no intention to-day of dealing with the subject as a whole, but shall confine myself to two divisions—its pathology, and what will follow as a natural consequence, the treatment to be deduced from it. There is no subject in veterinary literature which has given rise to more discussion and variety of opinions than what is commonly known as parturient apoplexy, and there is no disease at the present time concerning which we have such a diversity of treatment, resulting, no matter what method be adopted, in a very low percentage of recoveries.

The disease varies very much in virulence in different districts, and no matter what the treatment, in some localities the recoveries will amount to 60 or 70 per cent., whilst in others they are less than half that number.

The principal theories held respecting the pathology of this disease are that it is due to cerebral hyperæmia proper; that it is a variety of indigestion; that it is due to thrombosis of the vessels of the brain and spinal cord; that it is due to congestion of the system generally, and consequent cerebral anæmia; that it is due to fatty degeneration of the vessels of the brain and blocking with fat cells and colostrum corpuscles; that it is a form of septicæmia or of chemical intoxication; and that it is a purely nervous disease, caused by shock to the system, due to the removal of large quantities of the lacteal fluid, following the reduction of the patient's vitality consequent upon the act of parturition. All these theories, and, I dare say, several others, being held by different authorities, the variety of treatment is easily explained, as every scientific practitioner adapts his practice to his theory, and those of us who fail to do this cannot but let our theory follow our practice. I do not intend to deal with any of these theories, except the one I hold myself, that is, that the disease is due to a chemical poison developed in the blood of the affected animal, and I shall endeavour to reconcile this theory with the facts known in connection with the affection we are considering.

It is an admitted fact that we never have a case of pure parturient apoplexy in which the patient has not formed a large quantity of rich milk, which generally has been made very rapidly just previous to or after parturition, and that cows which fill the udder a few days before calving, and gradually increase the quantity of milk yielded, are not usually subject to the disease. No matter what the other circumstances attending the case may be, we are sure to find that the animal is a good milker, that she has been improving in condition, and generally that a good deal of milk has been taken away between the act of parturition and the period of the attack; even in those rare cases where parturient apoplexy occurs before calving, we are sure to find that the udder is distended with milk, and that the period of gestation has been fulfilled, and in these cases there is probably a debility of the nerve supply to the uterus, which has prevented the expulsion of the fœtus at the proper time, but has not extended to the udder or interfered with the secretion of milk.

The cow, in a state of domestication, is the only animal in which a large supply of milk is commenced to be secreted at once; in all other animals, and even in heifers, the supply at the birth of the young is small and gradually increases to meet its requirements, and in the beef-producing breeds of cattle, where this natural state of affairs is followed, no matter how plethoric their condition, there is no fear of an attack of this troublesome disease.

Then again we have the remarkable fact that any affection of the system which prevents a large secretion of milk at this period is a sure preventive—a difficult parturition, a lowering of the diet, a general or local fever—in fact we may be sure that if the patient at this time has any other ailment what-

ever, it will be exempt from parturient apoplexy. We find then that the constant condition preceding the attack is the secretion of rich milk, generally in large quantities, and at a time when the natural vitality of the animal is lowered by act of parturition.

It is well known that in all animals during pregnancy, and again during lactation, the constituents of the urine undergo considerable alteration, but as the latter only is of importance to us we will confine ourselves to that part of the subject. The most important tissue change during lactation is the conversion of epithelial cells in the mammary gland into fat cells, the original cells consisting principally of albumen, and undergoing a rapid process of fatty degeneration. Now it is easily understood that the waste products, resulting from the metamorphosis of the large quantity of fat cells, contained in the 5 or 6 gallons of milk usually secreted in a day by a victim to this disease, must be very considerable; and in addition to this we have the fact that in the first stages of lactation in the cow, this process of conversion is incomplete, the colostrum or first milk containing cells only partially changed; but although the cells in this fluid are only partially changed, their number is enormously large, and the bye-products remaining in the system must be proportionately great, and this at a time when the animal's energies are weakened, and the excretory organs have not adapted themselves to the work thrown upon them. It is here worthy of note that the colostrum of heifers and of cheese-producing cows is not nearly so full of these cells as that of butter cows, and this may in some degree account for the exemption of the former classes from the disease. It must not be inferred from this that I have any leaning to the theory that the disease is due to blocking capillaries with colostrum of fat cells, but that the conversion of the animal tissues into lacteal fluids develops a toxic material which is normally excreted, but on account of the excess of the amount at this particular time the organs engaged are unable to eliminate it from the system with sufficient rapidity to obviate its deleterious effects. As the skin in cattle has little, if any, function as an excretory organ, the kidneys are the organs upon which the work must fall. You may have noticed the peculiar faint, sickly odour which is given off from the carcase of a freshly-slaughtered milking cow, especially from one which has been killed during an attack of parturient apoplexy; and in addition to this there is a distinct difference in the odour of the urine of milking cows and that of non-milking animals of the same species, due to the same agent. Very little research has at present been devoted to the chemistry of the waste products of our domestic animals other than the horse, and a chemical agent of this nature, which is apparently very unstable in its character, would no doubt be difficult to isolate; but I trust that at some future time we shall have large additions to our present knowledge of the subject. The disease, to my mind, presents the greatest possible resemblance to alcoholic intoxication, not only from the varying effects of the poison on different subjects, but from the fact that the more suddenly its effects are produced the more probable the chances of recovery, and the more rapid the recovery when it takes place. It is quite certain that it is not due to any organic changes in the animal's body, as in the acute stage neither the naked eye nor the microscope can discover anything to account for the symptoms. I have at different times examined a number of brains and spinal cords, and have been disgusted with the small reward for my time and trouble. Of course when an animal has been comatose for a day or two there is no difficulty in discovering serious alterations in the brain, and many of the other organs as well. The rapidity with which our patients sometimes recover in the worst stages of the disease also decidedly points to an exciting cause of the type to which I have drawn your attention.

(*To be continued.*)

CONTAGIOUS OR INFECTIOUS DISEASES IN IRELAND.

Summary of Returns.

PERIOD.	Pleuro-Pneumonia.			Swine Fever.					Anthrax.		Glanders (Including Farcy).		Rabies	Foot and Mouth Disease.	
	Number of Cattle Slaughtered.				Diseased Swine		Healthy Swine Slaughtered.								
	Diseased.	Having been in Contact.	Suspected.	Number of Fresh Outbreaks Reported.	Died.	Slaughtered.	Having been in Contact.	Suspected.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.	Number of Diseased Animals Killed or Died.	Number of Fresh Outbreaks Reported.	Number of Animals Attacked.
Week ended 16th March, 1895 ..	—	—	—	81	33	148	47	36	—	—	—	—	15	—	—
Corresponding week in 1894	—	—	—	103	24	504	187	20	—	—	—	—	3	—	—
Corresponding week in 1893	—	—	1	3	2	2	—	—	1	1	1	1	7	—	—
Corresponding week in 1892	17	68	1	1	1	—	—	—	1	1	—	—	17	—	—
Total for 11 weeks, 1895.. ..	—	—	—	1135	444	2260	732	613	1	1	3	3	132	—	—
Corresponding period in 1894	—	—	19	952	448	5031	1505	147	2	2	3	4	70	—	—
Corresponding period in 1893	—	—	52	41	52	14	1	—	4	4	1	1	67	—	—
Corresponding period in 1892	155	654	25	24	24	36	—	—	3	4	3	4	73	—	—

NOTE.—The Figures for the Current Year are approximate only.

Veterinary Department, Privy Council Office, Dublin Castle, *22nd March*, 1895.

Extracts from Foreign Journals.

ACUTE ALCOHOLISM IN THE DOMESTIC ANIMALS.

In a paper contributed to the *Recueil de Médecine Vétérinaire*, M. R. Bissauge, of Orleans, says :—"Alcoholism in our domestic animals is a phenomenon sufficiently rare to justify me in recording one or two cases which I have observed. The truth is, the circumstances are very exceptional in which the doses of alcohol swallowed by the lower animals produce alarming symptoms, and still rarer in which they cause death. The susceptibility of the subjects, also, varies according to their species, and the nature of the alcoholic liquid that has been introduced. As a rule, animals that are accustomed to absorb alcoholic poison show themselves seriously affected by this product, which, in the case of man, has become almost an element of his daily food. The horse and the dog, as one might guess from their nature, are generally more easily influenced than the ox, which latter can support much greater doses, and is much slower in showing the toxic effects, than either of the others. Chronic alcoholism has never, I think, been recorded in connection with the lower animals; it could only be produced by long-continued feeding on draff or dregs from distilleries and breweries. Acute alcoholic poisoning by the ingestion of these products is itself comparatively rare.

"*Case I.—Alcoholism in a Cow, followed by Death.*

"On the 15th June, 1890, I was sent for during the night to attend a cow that had just calved and was showing, the messenger stated, alarming symptoms. Before arriving at the house of the owner, a vineyard proprietor, I was informed by the messenger that the cow had calved that morning, alone and without any aid; she had not yet passed the fœtal envelopes. About 3 p.m. she had been seized with severe colic pains, which produced slight eversion of the vagina and the rectum. The owner, becoming alarmed, had sent for one of his neighbours, an old farmer, 'who knew all about things of that sort,' and this specialist, in his own elegant way, made a truss with some ropes. In spite of this apparatus the colic spasms continued, and to calm them the old farmer advised my client to give the cow a little drop of brandy—a medicine which he had never seen fail in such cases. Accordingly, the animal which had just calved was made to swallow two or three drenches with a base of pure dreg-brandy. From that moment the cow ceased straining, but she became excited and behaved as if she were mad. All this was told me by the messenger. So far there was nothing extraordinary, but on my arrival I found the animal in a state of extreme agitation; she was stamping on the ground and striking her belly with her hind legs; her eyes were glaring and wild; convulsive movements shook the muscles of the fore-arms and the thighs. At times actual fits of madness came on, during which the patient assumed a defensive attitude. From the commissures of the lips a foaming slaver escaped. It was only with great difficulty that I could approach the animal, and only by waiting for a moment of calm. The mucous membranes were red and injected, respiration was panting, the cardiac sounds were most irregular, and audible at a distance. In presence of this array of sufficiently alarming symptoms I was at a loss, for the moment, what to do; the manifestations were so violent that I hesitated to diagnose the case as one of madness (*rage*), or of cerebral congestion, or as being one of the periods of agitation of vitular fever. But on examining the animal more closely, I was struck with the alcoholic odour of the breath, which had for its predominating characteristic the peculiar smell of dreg-brandy—a most disagreeable smell, and one which is recognisable at a distance. I questioned the bystanders more closely and ended by discovering that the 'little drop of

brandy' which had been given to the patient consisted of about three litres (5¼ pints) of an alcohol distilled from the refuse of grapes, on the premises, and this had been given *pure* as a drench! Now my uncertainty was at an end, and I was sure that I had before me a case of intoxication, with cerebral congestion, produced by alcohol. I proceeded to act in the following way: I gave orders to roll a big wet cloth round the animal's horns and to keep it constantly wetted with cold water; bleeding was impossible on account of the wild movements of the animal; I prescribed 150 grammes (about 5⅓ ounces avoirdupois) of acetate of ammonia, to be taken in 2 litres (3½ pints) of coffee, in two doses, with an interval of an hour. During my stay at the vineyard (about an hour) the excitement of the cow, which had lasted for about two hours, began to calm down and to give place to a comatose condition; respiration became slower, and the heart-beats less violent. It was now possible to approach the animal, and I seized the opportunity, before leaving, of taking off four litres (7 pints) of blood at the jugular. Next morning, about ten o'clock, I saw the animal again. Coma still persisted; it was difficult to get her up on her legs, and then the limbs were spread apart and unsteady; the head was down, breathing painful and heavy, pulse feeble and scarcely perceptible. Pin-pricks produce no re-action; the skin is cold and the eyes dull; breath still alcoholic. I prescribe—

Tincture of nux vomica
Acetate of ammonia } 50 grammes (1¾ ounces avoirdupois)
In 3 litres (5¼ pints) of coffee, to be given in three doses during the day.

"I also order dry rubbing of the skin, warm blankets, fomentations of vinegar and water. I promise to return next day and am somewhat surprised when a message is sent to me that the cow has succumbed during the night.

"As the case seemed to me a very interesting one, I went in the course of the afternoon to the yard to examine the lesions of the carcase. When the animal was opened one could perceive a strong alcoholic odour and the peculiar smell of refuse-brandy (*eau-de-vie de marc*). The uterus was in its place: there was no eversion, no rupture of this organ; the fœtal envelopes still adhered. The rumen contained a certain quantity of semi-liquid food with an alcoholic odour; in the lower part the mucous membrane was covered with red blotches 4 to 5 centimètres (about 1½ to 2 inches) in diameter. The kidneys and lungs were greatly congested; the heart and the large blood-vessels were filled with black uncoagulated blood, covered on the surface with tiny drops of oil. The liver was gorged with blood, friable, and cloudy. The brain, roughly examined, was congested.

"These lesions, found on *post-mortem* examination, simply confirmed me in my diagnosis; the cow had succumbed to alcoholic intoxication. But to what are we to attribute this poisoning, to the unusual dose of the alcohol or to its special composition? The dose of 3 litres of brandy is enormous for a cow of medium size, and I think very few animals could stand it with impunity; one might therefore blame merely the quantity of liquid employed. But, on the other hand, a condition favourable to the poisoning was that the brandy was given *pure*, that is, without admixture of wine or water, as is generally the case, whereby the corrosive action of the poison on the mucous membranes is mitigated. Lastly we must keep in mind that the cow drank brandy distilled from the refuse of grapes, more *or less* correctly distilled on the premises of the vine-dresser in a movable still, and that this brandy, even when properly rectified, contains not only alcohol but various kinds of alcohol. This product of distillation contains an essential oil, which gives it its disagreeable smell—the oil of raisin pips, in which we find:—

Heptilic or œnanthic alcohol ($C^7 H^{16} O$).
Octylic or caprylic alcohol ($C^8 H^{18} O$).

and according to Wurtz :—

Caproic alcohol (C^8 H^{14} O).
Propylic alcohol (C^3 H^8 O).
Armylic alcohol (C^5 H^{12} O).

DUJARDIN-BEAUMETZ AND AUDIGE.

"Each of these alcohols has its peculiar properties, and these are mostly hurtful. Whichever of the above causes it was that produced death, I think it would be well to abstain from giving too strong doses of alcohol to animals of the bovine species ; certainly it is important to be very careful in administering brandy distilled from the refuse of raisins.

"*Case II.—Alarming symptoms in a Horse suffering from Absinthe-poisoning.*

"In the month of March, 1892, I had an opportunity of observing serious disturbances caused in a horse after the absorption of a certain quantity of alcohol. The facts are as follows :—A little horse, belonging to a farmer in the neighbourhood of Orleans, was seized with colic-pains five or six hours after an ordinary feed ; he kept pawing the ground, and then lying down in his stall, and rising up again. His owner thought it would be a good plan to walk him about a little, and he thus succeeded in calming the pains. Whilst being led about, the horse neighed, and attempted to nibble the grass by the roadside. A wise-acre passing along, said that the best thing for dispelling colic-pains was a mixture of absinthe and white wine ; accordingly, a glass of absinthe bought in a public-house close at hand, and mixed with half a litre of white wine, slightly heated, was given to the animal. The effect of the dose was quickly shown ; a quarter-of-an-hour after the administration of this drench, which was given all at once, the horse became excited, without, however, showing any signs of colic. Micturition and defecation took place, but the restlessness continued ; trembling became apparent in the heavy muscular masses of the neck, the thighs, and the fore-arms. The walking about is begun again, the animal tries to run, but his action is unsteady and staggering ; at length he falls down, as if paralysed, and refuses to rise. Then I am sent for. I arrive about three hours after the giving of the drench ; the period of excitement is past, the animal has been brought home again to his stable with some difficulty, he is lying down, apparently fast asleep. The pulse is small and feeble, respiration painful, and the eyes injected with blood. I have to strike him hard with a whip to get him to rise, and then he is very unsteady on his legs. The flank is not distended, there is no sign of colic ; the patient is in a comatose condition, which renders him almost indifferent to the means I take to excite him, such as pricking him with a pin, and lashing him with a whip. The skin is cold, and motion difficult ; a smell of absinthe is quite perceptible in the stable. After hearing all the farmer's statements, and seeing all the symptoms which I have described, I have no hesitation in blaming the dose of nearly 150 grammes ($5\frac{1}{4}$ ounces avoird.) of absinthe. I order vigorous rubbing, warm blankets, and a drench composed of—

Acetate of ammonia 40 grammes (about 1½ oz. av.)
Coffee 1 litre
To be given in two doses.

and make a subcutaneous injection in the neck of—

Citrate of caffeine 20 centigr. (about 3 grains)
Water 5 grammes (about 77 grains)

Next morning I visited the horse again, and found him quite better. A few hours after my departure the night before, drowsiness left him gradually, he rose of his own accord, and resumed his ordinary attitude. The colic-pains did not recur during the night.

"I consider this a case of simple drunkenness, bordering on alcoholic poisoning. The alarming symptoms did not last long, thanks to the mixture of the alcohol with the white wine, and to the dose of only 150 grammes or so, which was comparatively moderate, taking into account the size of the beast. Of course, the treatment must have helped, to a certain extent, to mitigate the poisonous influence of the absinthe, which is injurious not only from the alcohol, but from the various essences which it contains, such as aniseed, fennel, coriander, and others."

FURTHER EXPERIMENTAL OBSERVATIONS ON THE PRESENCE OF TUBERCLE BACILLI IN THE MILK OF COWS.

BY E. C. SCHROEDER, M.D.V.

THE following experiments to demonstrate the presence of tubercle bacilli in milk are a continuation of the observations published on page 60 of Bulletin No. 3, 1893, of the Bureau of Animal Industry.

In the former work the principal question to be solved was the relation which exists between the condition of a tuberculous animal and the degree of milk infection. The same question was kept in view in the present work, but in addition to it some information was sought concerning the probable extent to which tubercle bacilli occur in the general city milk supply. Hence the following experiments divide themselves into two series: The first deals with city milk in the condition in which it reaches the consumer, and the second, with milk from cows without visible disease of the udder in which tuberculosis was diagnosed, either through a physical examination, or through the use of tuberculin injections.

The milk was injected into the abdominal cavity of guinea-pigs partly in the form in which it was obtained from the dealer, or the cow, and partly after it had undergone a centrifugal process. The latter consisted in pouring a quantity of milk into glass tubes and rotating it in them fifteen minutes by means of a small hand centrifugal machine, which was made to revolve 1,500 times per minute. The fluid in the bottom of the tubes, together with the sediment, if there was any, was retained for injection and the balance of the milk discarded. The object of the centrifugal process was to concentrate, in the smallest amount of fluid, any tubercle bacilli present. It has been shown experimentally that the conduct of different bacteria varies in fluids subjected to centrifugal motion. Some bacteria rise to the surface, while others, and among them the tubercle bacilli, gravitate to the bottom.*

Cover-glass preparations were stained and examined for tubercle bacilli from every specimen of milk, excepting that from cow No. 283, but were found in no instance. Multinuclear leucocytes in greater or smaller numbers were present in the cover-glasses from all specimens of milk excepting those marked dairy H and L. Among the numerous bacteria present a large coccus and a large thick bacillus predominated. Occasionally streptococci were seen in small numbers.

Nothing was known of the condition of the milk from the dairies and dealers at the time it was procured for examination, and consequently some precautions were believed necessary to avoid diseases of the guinea-pigs from the accidental presence of miscellaneous septic or toxic bacteria. For this reason the milk injected into the first six guinea-pigs, which are given separately in Table I, was previously exposed to an elevated temperature, 60° C., for fifteen minutes. This procedure, it was thought, would destroy the other germs, if such were present, or reduce their virulence sufficiently to make them harmless, without seriously affecting the tubercle bacilli. As a control in the heating process a suspension of tubercle bacilli was made in the

* Scheurlen, Arbeiten a. d. Kaiserl. Gesundheitsamte, VII. (1891), p. 269.

manner described below and injected into the abdominal cavity of a guinea-pig.

A small amount of the surface growth on a glycerin-agar culture of tubercle bacilli was scraped off and thoroughly triturated with 10 cc. of beef infusion. When the beef infusion had assumed a homogeneous cloudiness, and no clumps or solid particles visible to the naked eye remained, 0.5 cc. was removed with a sterile pipette and added to 5 cc. of milk, which was then exposed to a temperature of 60° C. for fifteen minutes.

The guinea-pig which received this injection was chloroformed after eighty-five days and on *post-mortem* examination no lesions were found. Even before the guinea-pig was killed the inference from its uninterrupted good condition was that the few tubercle bacilli which might be present in a specimen of mixed milk could not undergo the heating process without sacrificing their vitality. This view was further supported by the death of two guinea-pigs in twenty-five and twenty-eight days, respectively, which were injected, shortly after the first guinea-pig was injected, with similar suspensions of tubercle bacillus which had not been previously exposed to an elevated temperature. Hence, after the first six injections, which are given in the following table, the heating process was discontinued: *

TABLE I.

No. of guinea pig.	Date of injection.	Date when killed.	Quantity injected	Centrifugalized from—	Weight of guinea-pig when injection made.	Weight when killed.	Source of Milk.	Autopsy.
			cc.	*cc.*	*Ounces.*	*Ounces.*		
444♀	June 28, 1893	Sept. 23, 1893	5	40	20½	22	Dairy 1..	Negative.
445♀	do. ..	do. ..	5	40	24	31	do. ..	Do.
447♀	June 30, 1893	do. ..	5	40	14	18	Dairy 2..	Do.
448♀	do. ..	do. ..	5	*a*40	18	22	do. ..	Do.
455♂	July 8, 1893	Oct. 17, 1893	5	40	19	20½	Dairy 3..	Do.
456♂	do. ..	do. ..	5	40	17	20	do. ..	Do.

a The 40 cc. here represent the lower strata in a bottle containing 100 cc., which had stood on ice twenty-four hours.

The next table gives the results of 40 injections, which represent 19 specimens of milk. The milk, excepting that marked dairy Q, was delivered to private residences or bought in different sections of Washington, D. C., and nothing is known about the cows by which it was produced. Dairy milk Q was obtained from a herd of cattle in Virginia, numbering twelve milch cows, eight of which gave high temperature reactions after injection with tuberculin. In two of the eight cows tuberculosis could be readily diagnosed on physical examination. The milk from the twelve cows was drawn in the usual manner at the evening milking, poured into a large can, and allowed to stand about one-half hour. The can was then thoroughly agitated three to five minutes and a specimen of milk dipped out of the top and taken in a sterile bottle to the laboratory, where it was used for injections the following morning.

GUTTA PERCHA SHOES FOR HORSES.

M. Desprez, of Saint Quentin, exhibited lately a new style of shoe with a base of gutta percha. This additional shoe, interposed between the ordinary shoe and the foot of the horse, deadens metallic vibrations produced by the

* This rapid destruction of tubercle bacilli from a culture on glycerin-agar (fifteen minutes at 60° C.) does not harmonize with the results of others. De Man (Archiv. f. Hygiene, xviii., p. 123) finds that at 60° C., one hour is necessary to destroy tubercle bacilli in milk.—T. S.

striking of the ordinary shoe on paved streets, is moulded very carefully on the sole and allows a reduction on the weight of each shoe of the animal, of 300 to 400 grammes (say ¾ of a pound to 1 pound).—(*Revue Scientifique*).

GLANDERS AMONGST HUMAN BEINGS AT HAVANA.

El Progress Medico, of Havana (Cuba), states that death from glanders, hitherto unknown in the colony, is assuming a degree of frequency which is extremely alarming. According to a competent veterinary authority of the country, ten per cent. of the 15,000 horses of the island would appear to be affected with glanders; this being the case, we have no difficulty in understanding how deaths amongst human beings bulk almost as largely in the sanitary reports as those from other infectious diseases. The newspaper above mentioned states further that the cure for such a state of things is not difficult to find, namely, thorough inspection of stables and slaughter of infected animals, with indemnity to owners. Unfortunately the government alone can take measures of this kind, and yet it appears that the government, in spite of the uneasiness caused by this outbreak, takes not the slightest interest in a state of matters which is already very serious and threatens to become more so.—(*Union Médicale*).

HORSES POISONED BY TOBACCO.

Australian newspapers have recently reported a strange epizootic, which has raged amongst horses grazing on the banks of the river Darling. Their eyesight grew gradually feebler, and, in a space of time varying from one to two years, they became perfectly blind. This epizootic seems to be due to the eating, by the horses, of the leaves of a native tobacco (*nicotiana suaveolens*). The seeds of this plant have probably been carried into these pasture-lands from the higher regions by overflowing of the river; at any rate the epizootic appeared only after the introduction of the plant. Tobacco would thus seem to determine amblyopia in the horse as well as in man, and amblyopia may be the sole symptoms of poisoning, the general health remaining perfect in other respects. This blindness in horses appears to be incurable.—(*Revue Scientifique*).

Notes and News.

Discovery of a Cure for Poisonous Snake Bites.—It is permissible to doubt whether any foundation exists for the accusations which are continually made against Dr. Pasteur and his famous Institute for the treatment of hydrophobia, but whatever people may find to say against this Parisian chemist and his cure for the malignant disease caused by the bite of a mad dog, it can only be with unfeigned pleasure that they hear of the success which has attended the experiments of his fellow-worker, Dr. Calmette, who, during the last few years, has turned his attention to combating the deadly poisons of venomous snakes. Dr. Calmette is one of that brilliant group of scientific men who have gathered round M. Pasteur in the red brick building in the Rue Dutot, and there, under the ingenious methods and painstaking experiments of modern therapeutic inoculation, the bites of the deadliest snakes of the world have ceased to be deadly. Rattlesnakes, cobras, adders, vipers, asps and tigersnakes were sent from all parts of the world to the famous toxicologist when it was known that his interest in poisonous snakes and their antidotes had been aroused by the many requests made to the Pasteur Institute from India for protection against the cobra, whose terrible death-roll does not fall short of 22,000 persons per annum. These snakes were all kept together in a large glass box in the laboratory, where, knotted and tangled, they squirmed and hissed without any apparent fear of one another, or mani-

festing the slightest inclination to quarrel over their meals. According to Dr. Calmette, this respect which poisonous snakes show each other is very much like the harmony which exists between other bands of desperate conspirators, and he accounts for it by the curious fact that every venomous snake is proof against the poison of other snakes in direct proportion to his own deadliness. Up to the present time it is true that Dr. Calmette's experimental cures by subcutaneous injections have been confined to guinea-pigs and rabbits, the two animals most sensitive to snake poison. The fact, however, that three hours after it had been bitten by the deadliest serpent in the world a rabbit which had been vaccinated may be seen alive and skipping about as if nothing unusual had happened, leaves no reasonable room to doubt that Dr. Calmette's untiring investigations have been crowned with success. He has now proceeded to a larger class of animals—dogs—and will go from them to cattle. Although perfectly confident of the result of his researches on human beings, the famous French scientist could scarcely expect even a maniac to offer his person to the bite of a snake in the cause of science, and the first tests of his cure on men and women will be made among actual sufferers in India. Hydrophobia is a disease whose development in a bitten person is usually so slow as to allow him ample time to reach the Institute. With snake bites, however, death is usually a matter of a few hours, and sometimes even minutes, and consequently the world cannot expect to reap the benefits of Dr. Calmette's discovery until his therapeutic serum and directions for using it have penetrated across the borders of Europe. The first step taken by Dr. Calmette in his long series of experiments was to analyse the venom of the cobra, the most deadly of all reptiles, and he discovered that the albumen or white of an egg and the poison of the cobra of India are so similar in composition that it requires a very careful quantitative analysis to detect the difference. It is a curious physiological fact that two substances of practically the same chemical composition can have diametrically opposed effects upon the human body—the best support of life on one hand, the quickest terminator on the other. This very similarity to albumen was the fact which for a long time placed cobra poisoning beyond the reach of human remedy, on the grounds that no specific which would neutralise or destroy it could be prevented from neutralising and destroying the albumen of the blood as well. Besides the living snakes which were imported into Dr. Calmette's laboratory, the experimenter received bottles of their venom to avoid the troublesome and dangerous occupation of personally collecting it. The method is practically the same as that practised by the American Indians in poisoning their arrows, only in the one case vegetable matter is used instead of liver, which the savages considered the best absorbent. The cobra is first tied down and then irritated until it strikes at everything which comes within reach, and at each attack the broad leaves which are used for the purpose receive an appreciable quantity of the deadly fluid which exudes from the poison glands. When the toxicon is collected the result is a pale yellow fluid, which, however, is sometimes colourless, according to the season of the year, and hardens into a gum-like substance, retaining its virulence for an indefinite length of time. The practical value of the doctor's experiments with the cobra is increased by the discovery that in neutralising the effect of one snake's bite, an antidote is provided against the attacks of all poisonous serpents, and this has been proved by allowing a rabbit to be bitten and vaccinated and bitten again. The fatal principle of all venomous snakes is the same. How is death caused by a cobra's bite? This naturally afforded one of the first problems for the scientific investigation of the famous toxicologist, and his observations have led him to the belief that death from a cobra's bite is due to a peculiar coagulation of the blood. By studying the blood of bitten animals under a microscope it was found that the corpuscles lost their shape and agglomerated,

and the blood was thus unable to do its work. In other words, the fatal result was due to paralysis of the lungs caused by the stoppage of circulation. This discovery led to some very interesting experiments which have resulted in the knowledge of a chemical treatment which, in the absence of Dr. Calmette's therapeutic serum obtained from a bitten animal or an animal artificially bitten or inoculated, will, in cases of necessity, meet all the requirements of a bitten person. This is by the application of ordinary chloride of lime. The chloride should be free from absorbed water, and when used should in all cases be taken from an hermetically sealed bottle. One part of it by weight should be dissolved in two parts of boiling water, and the solution should never be made until it is about to be used. This should be injected subcutaneously with a syringe all about the wound and also under the skin of the abdomen, that it may enter the circulation as quickly as possible. As, however, the doctor's experiments have been entirely limited to dumb animals, he is not in a position to determine the amount necessary to be used upon a human being, although from all the conditions he estimates that from twenty to thirty cubic centimetres of the solution would suffice to save the life of a man bitten, it being administered in doses of five cubic centimetres each time. Of course, time is an important element in the matter. The doctor believes that if this fact were widely known and made use of, the lives of at least 75 per cent. of the persons bitten by snakes could be saved, although he offers it only as a temporary expedient in the absence of his therapeutic serum. The venom of the cobra is harmless if taken internally, nor is it fatal when brought in contact with a mucous substance like the eye, as an unrehearsed experiment in Dr. Calmette's laboratory showed. The fact was developed in one analysis when an assistant had some of the poison splashed into his eye, and suffered a mild form of surface irritation only. Dr. Calmette commenced his complicated series of investigations by administering chloroform to a rabbit or guinea-pig which was then bitten by a snake. This made its circulating system a source of the therapeutic serum, itself deadly in any large quantity, which was used in vaccinating other rabbits, and the course of experiments gradually established the amount of inoculation necessary to counteract the effects of the pure venom. A poisoned rabbit which would have succumbed in the course of two hours can be saved by the weakest serum if it be administered within twenty minutes, and the doctor successfully arrested the action of the poison with the strongest serum after a lapse of an hour and a half. He finds that he can use three distinct remedies in vaccinating a rabbit, and, by all analogy, a man, against the bite of the most poisonous snake, or as an antidote, after they have been bitten. These are: the serum of an envenomed animal by itself; secondly, this serum mixed with chloride of gold or the hypochlorite of sodium or of lime; and, thirdly, either of these chemicals, or in preference, chloride of lime used by themselves without serum. The process of vaccination for immunity against the bite is progressing, as in the hydrophobia treatment. The injections are administered in such small doses that no ill effects are produced upon the system.

The American Cattle Trade.—On February 24th the French Minister of Agriculture, after a visit from a number of agriculturists who had come to Paris for the annual cattle show, decided on forbidding the introduction of horned cattle from America on the ground that disease had broken out among them. The United States Government has since handed to the French Government, through its representative in Paris, an energetic protest affirming that not a single case of disease had been noted either when the cattle were embarked or when they were landed in France. The United States Government thinks that the prohibition has a purely protectionist character, and that the question of disease has been raised before this is the only justification of such a prohibition. The United States Government

probably protests, not because it disputes the right of France to adopt whatever decisions it may see fit, but because the pretext constitutes a grave injury to the interests of the United States by tending to confirm the rumour that disease prevails among American cattle, and thus unjustifiably to bring about their exclusion from European markets. It is to be anticipated that the United States will make reprisals towards France if the prohibition is maintained.—*Times.*

Transit of Animals.—An order by the Board of Agriculture, regulating the transit of animals by ship and rail, is promulgated in the *London Gazette*. It applies to all vessels on which animals are carried to or from any port in Great Britain ; but it does not apply to foreign animals, or to vessels on which foreign animals are carried, provision as to which is made by a separate order of the Board in the same issue of the *Gazette*. Amongst other things, it is provided that (1) animals shall not be carried on any hatch above a compartment where other animals are carried ; (2) animals shall not be carried in any part of the vessel where, in ordinary course of navigation, they would interfere with the proper management or ventilation of the vessel or with the efficient working of the boats. It is ordered that the animals are to be carried in pens, and no pen is to exceed ten feet in length aud nine feet in breadth. There are also provisions relating to ventilation, light, overcrowding, food, and water, securing cattle, &c., and the following regarding shorn sheep is noteworthy :—" Between each 1st day of November and the next following 30th day of April (both days inclusive), shorn sheep shall not be carried on deck, except where they were last shorn more than sixty days before being so carried." A similar provision has been made for the carriage by rail of shorn sheep, which are to be covered and enclosed between the dates above mentioned. Rules to be observed in the transit of horses, asses, or mules are also promulgated. The order comes into force on the 1st May next. " The Water Supply on Railways Order of 1895," also promulgated in the *Gazette*, is supplementary of the preceding one, and provides that the railway companies effected by it " shall make a provision of water to the satisfaction of the Board of Agriculture at each of the stations therein named for animals carried, or about to be carried, or having been carried, on those railways." The list of stations then follows, and includes many on ths Scottish lines.

ERRATA.

Argon.—In our last issue a few printer's errors occurred. viz., Craeon for Cracow ; 2,000 francs for £2,000 ; 186·9° and 191° as the boiling and freezing points of argon, instead of – 186·9° and – 191°.

Communications, Books, Journals, etc., Received.

Books and Pamphlets : Les Exercises de Chirurgie Hippique, a L'Ecole D'Alfort, by P. J. Cadiot, which is of great interest, and will be carefully reviewed in our next number. Pamphlet, on Mule Breeding in India, by Veterinary-Major G. J. R. Rayment. Text-book on Bovine Pathology, in the Urdu language, by Sayid, Sardar, Shah, Gilani, G.L.V.C.

Letters and Communications received from Henry Gray, Esq., M.R C.V.S., London ; E. H. Curbishley, Es., M.R.C.V.S., Stockport ; Joseph H. Carter, Esq., F.R.C.V.S., Burnley ; Dr. A. J. Haslam, F.R.C.V.S., Newbridge ; F. P. Byrne, Esq., Edinburgh ; Veterinary-Captain J. H. Nunn, C.I.E., Lahore, India ; Peter Moir, Esq., M.R.C.V.S., Edinburgh ; Veterinary-Major G. J. R. Rayment, India ; Lancashire, Yorkshire, Lincolnshire, Central, and Royal Counties Veterinary Medical Societies.

Journals, etc. : *Report of the Secretary of the Connecticut State Board of Agriculture on Tuberculosis, L'Echo Vétérinaire, Recueil de Médecine Vétérinaire, Annales de Médecine Vétérinaire, The Veterinarian, Veterinary Record, La Presse Vétérinaire, Report of Commission on Tuberculosis of the State of New York, Cape Colony, Agricultural Journal, Board of Agriculture, London, Board of Agriculture, Dublin, Army Veterinary Department, War Office, London.*

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MAY, 1895.

ESSAY ON DISEASES COMMUNICABLE FROM THE LOWER ANIMALS TO MAN.*

BY MR. R. PEECH.

(*Continued from page* 241.)

NUMEROUS experiments on young pigs, calves, and hens have been recorded, in which tuberculosis has evidently followed their being fed with tuberculous milk.

Professor Bang, of the Royal Veterinary School, Copenhagen, gave the result of a careful examination of 27 cases of tubercular disease of the udder of cattle, in the milk of which he was able to demonstrate the tubercle bacillus, both directly under the microscope and in the sediment obtained by means of the use of a centrifugal separator.

When we consider the occurrence of tubercle bacilli in the milk, along with the feeding experiments already recorded, and that the great prevalence of tubercle in certain classes of animals, affords very strong presumptive evidence that milk is a source of tubercular infection, especially in children, and in those in whom, on account of imperfect nutrition and impaired digestion, the walls of the alimentary canal are less able to resist the invasion of the organism known as Koch's Bacillus Tuberculosis, the danger of contracting tuberculosis from taking the flesh of cattle affected with disease is perhaps not so great as that associated with the drinking of tuberculous milk. It is, nevertheless, one with which the sanitary authorities will have to deal, and one to guard against which it is necessary to take very considerable precautions. There can be little doubt that in those cases where the disease is

*Read before the Edinburgh Veterinary Medical Society.

localised to one of the viscera at the time of the death of the animal, there is little danger to be anticipated from eating the well-cooked flesh from other parts of the animal, and if we could be absolutely certain that the localisation was complete, all would be well.

Even in flesh taken from advanced stages of tuberculous disease, there would be a certain proportion of cases in which no evil results would follow, and one observer who made 62 experiments with such flesh boiled for 10 to 15 minutes, found that only 35·5 per cent. of the inoculated animals became tuberculous.

Even in cases of generalised tuberculosis, Nocard failed in 39 out of 40 cases to transmit the disease by means of raw muscle juice injected into the peritoneal cavity of guinea-pigs, but he produced it in the fortieth.

Sims Woodhead was able to produce tuberculosis in two rabbits by injecting into the peritoneal cavity the raw juice expressed from the intercostal muscles of a tuberculous cow, after all tuberculous pleura had been already "stripped"; whilst the juice taken from the muscles of the thigh, injected into two other rabbits, was perfectly innocuous.

The danger of infection by the consumption of meat from tuberculous cows, may have been much exaggerated, but that there is a very appreciable danger must not be lost sight of by the medical officers of health and the veterinary inspector.

The next disease I wish to call your attention to is one, which, unfortunately, is of a far more common occurrence than is generally known, viz., actinomycosis.

This is a specific disease due to a parasite known as the actinomyces or ray fungus. It manifests itself in cattle, frequently in the jaws, where it is known as wen, osteo-sarcoma or bony sarcoma, malignant tumour of the palate, in the tongue, the pharynx, the loose tissues under the skin of the head and neck, and the lungs, stomach and intestines.

In the pig it is generally found affecting the milk glands. In the horse, usually as scirrhous cord, and also in the tongue.

In man, the lesions resemble in character those met with in the pig (*i.e.*), abscesses in the lungs and pus in the pleural cavity, and to similar condition of other organs; the bones, especially those of the spinal cord, are frequently attacked. On examination of the fungus under a high magnifying power, the organism is found to be like the capitulum of a daisy, the sterile flowers in the centre corresponding to the club-shaped rays; and if we conceive of two of these heads of

flowers as placed base to base, or stalk to stalk, you may obtain an idea of the appearance of the ray fungus as a whole.

This parasite was first cultivated in sterilized gelatine, then on agar-agar, blood serum, and on the raw white of egg, the latter being the best.

As to the mode of infection, it has been pointed out that the actinomyces has been found lodged in the crypts of the tonsils of a pig, and of the human being, and that the parasite evidently leads an epiphythic life on cereals. It may be inoculated from without through wounds, as in case of scirrhous cord of the horse, or by means of scratches of the skin, mouth, or pharynx, and it is recorded that a case of primary mediastinal actinomycosis in the human subject was supposed to be traced to perforation of the back of the throat by a barley spikelet swallowed by the patient.

Perhaps the best way to stain the parasite is as follows :— Take cover-glass preparation, press it very thin, then dry it ; stain Licht-Neelsen's fuchsin solution, wash in water, and then decolorise in a saturated alcoholic solution of picric acid. When red colour has nearly disappeared, place it in a large vessel of water and leave it for twenty-four hours, the water being frequently changed. Pass it through spirit, oil of cloves, and xylol. The actinomyces are stained deep red on a yellow background.

We now pass on to a disease which has recently caused more interest than any other in the whole range of pathology, viz., rabies. Rabies is a specific virulent disease, in which a contagium or infecting element is generated, which, when transmitted to other creatures by means of a bite or inoculation, is capable of inducing the same pathological disturbances and changes after a variable period of latency. These are produced through the media of the blood, the brain and spinal cord being particularly involved, and the poison is, in all probability, thrown off chiefly by means of the salivary glands.

It is said to arise spontaneously in the canine, feline, vulpine, and some other allied species of carnivorous animals ; it is communicated by inoculation, not only to these, but to herbivora, omnivora, and man ; in fact, to all warm-blooded animals.

This disease in man is technically called hydrophobia, which seems to imply that actual fear or dread of water is a conspicuous symptom of the malady. This is true in the human being, but not in the lower animals.

In the human being the symptoms seem to be somewhat as follows:—After a bite there may be no symptoms for a month or six weeks, or even twelve months, during which time the poison lies latent in the system. At the end of the incubative period the wound begins to itch, and is excessively hot, the patient becomes feverish and very thirsty; the face is pallid and has a peculiar anxious expression, the muscles of the face are drawn and restless; the expression now amounts to one of actual terror or horror. The patient becomes more excited and has a characteristic habit of giving a side glance, as though looking out for some hidden danger, then delirium sets in, thirst increases, great difficulty of swallowing—especially fluids—and after trying to swallow, the very sight of water suggests such horror, that thirsty as the patient is, he is anxious to avoid it.

Muscular tremors followed by violent spasm of the muscles set in, then convulsions; eventually the patient is slowly suffocated. Who can wonder that to a man of Pasteur's temperament and mode of thought such a terrible disease as that, the symptoms of which I have just sketched, would just be the one subject to fascinate him? Knowing that if success crowned his efforts he would confer a blessing on all humanity, he set to work and found that the virus had always the same action in the same species. Thus in a dog the virus is of a constant strength, and inoculations made from dog to dog kill the animal with the same incubative period, the same symptoms and practically in the same time. When inoculated from dog to the monkey, the virus becomes less virulent or attenuated, the attenuation becoming more marked in successive inoculations from monkey to monkey, until the virus is so attenuated as not to cause the death of this species. But if this attenuated virus be inoculated into a rabbit, a dog, or a guinea-pig, in course of time it again gains its original virulency, while if rabbits are inoculated with primary fluid from either the dog or the monkey, the virulency may become so exalted that it is considerably greater even than the virus from the rabid dog.

Having found, then, that the virus could be attenuated or intensified, and that different animals were affected in a different degree by the same virus, Pasteur set himself to work out the question whether it was possible to so alter the resistance of an individual that a virulent hydrophobic material would have little or no effect on the tissues. The only way in which this could be done appeared to be by the introduction of an attenuated virus into the animal that had

to be rendered immune, and so to accustom the tissues to the presence of the specific poison. He thought, in fact, that by successive inoculations of stronger and stronger poisons he would be able gradually to "acclimatize" the tissues to even the strongest virus, and so enable them to deal with it successfully, probably by converting it into an innocuous proteid material, so rendering it harmless to the delicate and highly organized cells of the nervous system. Pasteur would not let thinking suffice, but carried his idea into action, and eventually rendered dogs immune against the bite of a rabid dog; but far more than that, thanks to the indefinite period of incubation of this disease, he was able to render the human being bitten by a rabid animal immune before the virus of the original inoculation had time to do its deadly work.

Even the most pessimistic cannot but see in this recent discovery, as in many others made quite recently, that the grand march of science is nowise either less quick or less sure than in the days of Bacon and of other masters. Think, for one moment, of the rapid strides science has made during the past few years in the scope of our power over disease, whether by therapeutics or hygienic measures, or other modes of prevention or combating the maladies animals are subject to. But still look for greater powers soon to be gained.

I am sorry time will not allow me to give you the experiments which led Pasteur up to that wonderful discovery.

I may state with reference to inoculation in the human subject as a cure for the disease, that, in 1886, out of 2,682 cases, the mortality was 13·4 per 1,000. In 1889, 5·4 per 1,000, showing the mortality is greatly on the decrease.

We now pass on to a disease which affects the cow in a very mild form, but, nevertheless, is a disease of considerable importance. I now allude to variola vaccine. This disease is a contagious, febrile, eruptive disease, known in most parts of the globe as resulting from a fixed virus. After a period of incubation of from five to nine days, the contagium causes the development of an eruption on the surface of the mammary gland, which eruption passes through the stages of pimple, vesicle, pustule, and scab.

It seems to be established beyond doubt that cows may get it from the direct contact of the hands of the milker, who is suffering from small-pox.

Messrs. Ceeby and Badcock inoculated cows with small-pox lymph, and the result was that at the seat of inoculation pustules, exactly like those of cow-pox, were produced.

Moreover, with the contents of these they imparted cow-pox to healthy cattle, and to the human being, an affection exactly like that brought on by actual vaccination.

It may be that cow-pox is nothing else than small-pox communicated to the cow from man, but this is enveloped in mystery, and, perhaps, never will be unravelled.

This disease has also been communicated to cows, and also bulls, by enveloping them in blankets taken from the bed of a patient who had died from small-pox.

Vaccination.

I think it is only necessary in an essay of this description to touch very lightly on this interesting subject.

Vaccination was first introduced into this country by Lady Mary Wortley Montague, in the early part of the 18th century. She had seen the efficacy of this method in Constantinople, to which place it had been introduced from Persia and China. But it was not until the year 1795 that the great value of vaccination was proved by Edward Jenner. A description as to how the operation is performed, and the exact changes which take place, are, I think, uncalled for, as everyone here, this evening, has been through it once, some twice, and some, I daresay, even thrice.

You will see that though cow-pox is not a disease of very great importance in its relation to oxen, in fact rarely proving fatal, yet it is one of utmost interest and moment when looked upon from the standpoint of the welfare of the human being.

It may be that the virulent disease known as small-pox of man, when communicated to cattle by the media of the milkers or by inoculation, loses a great deal of its power for mischief—indeed so much so that when again inoculated upon man it merely gives rise to transient symptoms, which, however, protect against small-pox.

The next disease I wish to touch upon is stomatitis pustulosa contagiosa in the horse.

In the summer of 1876, several cases of a contagious disease appeared in and outside the clinic of the Berlin Veterinary College, presenting phenomena similar to those of variola, and chiefly affecting the mucous membrane and external integument.

Small nodules were formed on the oral mucous membrane; they rapidly increased in number and size, extending to cheek, tip of tongue, and upper lip; the skin of the breasts and four extremities were affected in some cases.

A student inoculated himself with the infection. There was redness and unpleasant itching and swelling of the part, the formation of a pustule, over which a yellow brownish crust formed, which fell off in 14 days, leaving a deep cicatrix.

Other four gentlemen inoculated themselves without infection.

The next disease I shall touch upon can be disposed of in a very few words, viz., foot and mouth disease. It is said that if children are allowed to drink the milk of cows suffering from this disease, they get a vesicular eruption on the mucous membrane of the mouth, pharynx, larynx, and intestinal canal, and which is known to medical men as thrush.

I wish to insert here, with the briefest possible allusion to a question which has been forcibly brought before our notice of late, as to whether diphtheria of the lower animals is communicable to man?

In the year 1882, Dr. Turner examined a pigeon and found the whole of the trachea covered with a consistent membrane hanging loosely in the tube like a wind-sail, just as is found in the body of a child who has died of croup. The fauces of another pigeon were inoculated with this membrane, with the result that a similar disease appeared.

In 1883, an epidemic of diphtheria broke out at Braughing. The first cases were connected with a farm, on which farm the fowls were dying of a disease apparently identical with the disease of the above-mentioned pigeon. Diphtheria made its appearance on other farms, where it was also preceded by a similar affection among the fowls. The same author mentions that he has seen chickens and pigeons, which have been inoculated with diphtheritic membrane from a child's throat, attacked as if with natural fowl diphtheria. He also mentions that at one outbreak both the horses and swine were affected with sore throats immediately after the epidemic among the human beings.

Dr. Klein states that diphtheria has been transmitted from the cow to the human subject by means of the milk.

Dr. Turner also states that one outbreak among human beings was preceded by a severe throat affection of the kittens in the house. In other cases it followed a case of strangles in the horse. He quotes three or four outbreaks which were preceded by strangles.

Dr. Ogle relates that he met with a case in which diphtheria broke out in a shepherd's family after a throat disease had prevailed among sheep.

There seems at least sufficient evidence to encourage careful inquiry as to the connection between diphtheria in man and certain affections in animals. What is known at present seems to be very incomplete and short of imparting satisfaction.

The last disease I wish to bring before your notice is scarlatina.

This disease is said to affect cows usually newly calved, and the local manifestation of the disease is a vesicular eruption on the mammary gland, known as erythema mammillarum or sore teats. Dr. Cameron says: The disease is transmitted from a diseased cow to healthy ones, by means of the milker, and by the discharges from the nose, mouth, and eyes, the virus being no doubt a streptococcus.

Dr. Klein demonstrated the micrococci to be present in the vesicles and to grow abundantly in milk, and if calves were inoculated with the virus, symptoms very similar to those exhibited by the cow were set up.

He also found that the micro-organism was in all essential respects similar to that taken from the blood of human beings suffering from this disease.

Doubtless some of you will remember that outbreak of scarlet fever in London in the year 1885, when suspicion fell on a dairy situated at Hendon. Since then there have been several other outbreaks in different parts of the country, which have been traced by medical men to a similar affection of the mammary gland.

I may state that a good many eminent men in our profession do not believe in the above theory.

In conclusion: Firstly, I must apologise for having detained you so long, but really in writing an essay on such an important subject as this one is, I found it of the utmost difficulty to know what to retain and what to throw on one side. I do not feel that I have done justice to this subject, but on the other hand, I hope my endeavour to interest you has not been altogether lost. You will also notice I have not touched upon parasitic diseases, but I hope some other member of this society will take it up, as a subject to read before this meeting.

I may state that these questions as to the connection between allied diseases of different classes of animals deserves the most thorough and painstaking investigation, as indeed they are now receiving at the hands of able scientists. Years and years of prolonged labour and research may be necessary before we are able to say that

we really comprehend the workings of disease; and no one should lose an opportunity of arousing some of that enthusiasm among workers in the field of science, which must be acquired in order to carry them through the immense amount of labour, which is necessary to solve these weighty and momentous questions. But doubtless the subject is one even as yet in its infancy, and one in regard to which our successors in the future will doubtless devote much earnest attention, to the no small benefit of mankind in many most important ways, the chief of which is the light which specially bovine pathology will throw upon the diseases of the human being. The onward progress of science should be compared to the children's snowball, which, unlike the rolling stone said to gather no moss, grows larger and larger and with each successive revolution adds still a greater quantity of snow than with the last. Thus it is with science the great lever by which human beings may hope not only to remove a great deal of mystery wrapped up in life, but also to live in the best way possible, and so do their duty so far as it is shown to them for the brief space during which they are, for some unknown though doubtless great purpose, sojourners upon the face of this earth.

TWO SUCCESSFUL CATARACT OPERATIONS ON A DOG.*

BY ROBERT L. RANDOLPH, M.D.

It is generally known that cataract is not uncommon in the lower animals, and especially in the dog and horse. In the horse, cataract is apt to be the result of recurrent irido-choroiditis, and this latter affection, as seen in the horse, is remarkable for its tendency to relapses, appearing often periodically, and representing the disease known as "moon-blindness." Cataract, then, in the horse, is almost always inflammatory in its origin.

When cataract is found in the dog, there is no such history of a coincident inflammation, but we find a condition that differs little from the same affection in man. With regard to the operation for cataract in the dog, no special difficulties are presented as contrasted with the same operation in man, except that we are compelled to use a general anæsthetic in the former case, and this is a disadvantage. Cocain has undoubtedly lessened the gravity of cataract operations.

* Read before the Johns Hopkins Medical Society.

It is evident that the healing process in animals is surrounded with far greater dangers than is the case with human beings, and it is this, no doubt, that deters us from operating for cataract in the lower animals.

Early last October A. W. Clement, veterinary surgeon, of this city (Baltimore), brought to my office a handsome pointer dog. The dog was perfectly blind, and had been sent to Dr. Clement for relief. He was eighteen months old, and in fine physical condition generally. His master said that he had been going blind for three months, and at the end of that time only light perception was left. On the street he would crouch at his master's feet at the sound of an approaching vehicle, and could not be dragged away till the vehicle had passed. When brought to my office and allowed to smell around the room, he ran into the wall and chairs at almost every turn. In being led one had to pull him along, as he was fearful of running into objects. On examination I found both eyes free from irritation. The pupils quickly responded to light. With the ophthalmoscope it could readily be seen that the lenses were opaque, and on using a mydriatic I found that they were uniformly and entirely opaque. The colour presented by the cataract was more a milk-white than grey, not unlike what we see in the ordinary traumatic cataract when there has been extensive laceration of the anterior capsule and the whole lens has become immediately opaque. A similar appearance is presented by the so-called naphthalin cataract that I have produced in rabbits by feeding them on naphthalin in the manner described by Dor, Panas and others. Such cataracts belong to the variety known as soft cataract. I determined to perform discission, so the dog was first given a hypodermic injection of morphia and then chloroformed. My instruments were boiled a half-hour before using them. Only two instruments are necessary, the needle and fixation forceps. The lids were held open by an assistant. At this time I operated on the right eye, and I may add that the pupil of the eye had been well dilated with atropia before the operation. The needle was passed into the cornea in the usual way and a crucial incision was made in the anterior capsule. Atropia was instilled and the dog was put into a small kennel and allowed to recover from the effects of the chloroform. The next day there was a large mass of cortical substance protruding into the anterior chamber. The recovery was absolutely uneventful and at no time were there symptoms of irritation. At the end of the first week Dr. Clement observed that the dog went about the stable-yard with greater freedom.

He was confined to his kennel for two weeks and whenever let out into the yard he was closely watched by the stableman. In three weeks there was a perfectly clear pupil, and only within the extreme ciliary margin of the pupil were there any remains of the capsule to be seen. During this time atropia was dropped in the eye three times a day. At the end of three weeks I made the following test: I arranged several chairs in such a manner as to form a zig-zag path leading from one room through a narrow door into the adjoining room, and then went into the adjoining room and called to the dog. He came along the path laid out for him without a pause. This he did several times without striking a chair. I then placed a chair in the doorway and called to him and he jumped over the chair to me without the slightest hesitation. That day I operated on the other eye and used cocain. The dog was exceedingly restless and had to be held down. This restlessness was not due to pain but nervousness, but it was enough to convince me that a general anæsthetic is indispensable. The operation was similar to the first one, and in five weeks there was to be seen only a small band of capsule lying in the pupillary area.

At this time it was impossible to detect anything wrong with the dog's vision. He moved about with freedom and rapidity, and ten days later his master, Mr. W. T. Wilson, of the city, wrote me that he had taken the dog out on a hunt and had found him just as efficient as ever in so far as his hunting qualities were concerned, and that he jumped fences and ditches as readily as the other dogs in the field.

It seems that the effect of the operation was to give the dog a vision that is practically perfect. At this time both Dr. Clement and I thought the case a unique one, and as far as I can learn it is unique in this country, but since then I have found quite a number of operations of a similar character reported in foreign journals. Among others, White Cooper, in 1850, gives an interesting account of some succcessful operations for cataract performed on bears in the London Zoological Gardens. Discission was the operation employed. Brogniez reports a case of successful cataract operation on a horse nine years old, and Chégoin operated successfully on an ass twenty-one years old.

As a general thing, cataract in the lower animals appears in the earlier years of life, and when it occurs in the horse Crisp thinks the cause is to be found in bad light and abundant exhalations of ammonia. Crisp is of opinion that constitutional affections have little, if anything, to do in the

causation of cataract in the lower animals, for usually the animals affected are well nourished and live for years. It will be remembered that the physical condition of my case was perfect so far as could be seen. Haltenhoff reports a case of cataract in a dog associated with diabetes; but on the other hand, Professor Moeller, of the Veterinary School in Berlin, who has operated a number of times for cataract in dogs and horses, has never found diabetes present, and this has also been the experience of Professor R. Berlin. I failed to test the urine in my case, but the general history of the dog would exclude any such complication; and I may add that in those cases of cataracts in rabbits produced by feeding them on naphthalin, frequent examinations of the urine failed to show the least evidence of sugar, though some of the clinical symptoms of these cases suggested diabetes, as, for instance, progressive emaciation, hurried breathing, and an excessive flow of urine.

In speaking of the causes, though, of cataract, in dogs more particularly, it is well to note the fact that accommodative strain, which may be a factor in bringing about cataract in man, can here be excluded; and inasmuch as good vision was obtained in the majority of the cases reported, it is not likely that a disease of the retina or choroid had anything to do with the existence of the cataract. Another interesting fact in connection with this case is the rapidity with which the cataract developed. Within three months after the vision began to fail the dog was blind. I was struck by the shortness of the time required for the absorption of the lenses. Ordinarily, even in very young children, it takes at least two months before absorption is complete, while in those who are older, a year or more with several discissions is the rule. In the first eye absorption was practically complete in three weeks, and in the fellow eye nearly all the lens substance had disappeared at the end of five weeks. One would be apt to think that so far as usefulness was concerned the dog would be worthless, but it will be remembered that this was not so.

I am sure that the absolute necessity of artificial help in the shape of glasses for cataract patients is much overrated. There are cases on record (quoted by White Cooper) where after the operation for cataract the patients were compelled, for the sake of experiment, to get along without glasses—in other words, to accommodate their eyes to the new refractive conditions, and after a few months they could get along quite comfortably, though of course unable to read. The vision of

every animal (man included) is no doubt limited to the needs of the animal. It is not likely then that dogs are possessed of human visual acuteness, and it is evident they do not require such vision. Certainly few, if any, demands are ever made upon the accommodative apparatus of the dog's eye, so that the loss of the crystalline lens would be attended with comparatively little or no inconvenience, and the same may be said of the horse.

Possibly, the good sight in these cases is to be accounted for by a reproduction of the lens fibres, and in this connection I may refer to the experiments of Cocteau and Leroy d'Etiolles. These observers found that in a certain length of time after the removal of the crystalline lens in rabbits, dogs, and cats, that another lens was formed. It is a curious fact that in several of these experiments the capsule showed no cicatrice, but was perfectly clear, and contained a lens as voluminous and consistent as the lens that was extracted, and differing in no respect from the latter. Gunn reports a case of traumatic cataract that had occurred in a child, where, after the absorption of the cataract, later on in life new lens fibres were demonstrable. By this time a reproduction of lens fibres may have taken place in my case, but we are not justified in attributing the good vision obtained to such a process, for sight improved at the end of the first week, and the formation of new lens fibres would not, likely, have begun till the absorption of the old lens was complete.

From investigations made in the London Zoological Gardens it has been found that cataract is common to nearly all of the lower animals, but it is a suggestive fact that cataract is most often seen in the two animals nearest man, the dog and horse. Neither extraction nor couching seems to be proper in operating on the lower animals. The impossibility of keeping the animal quiet, or of surrounding it with any of the usual safeguards, is an objection to extraction. While Moeller has had several successful cases of extraction, he states that his best results followed discission. As to couching, the danger of intraocular inflammation makes this operation quite as objectionable here as it is in the case of man. In my opinion discission is the only operation applicable to these cases. A general anæsthetic is indispensable. A bandage should not be applied, as it attracts the dog's attention to his eye, and it will be rubbed or torn off and injury to the eye would result. It is imperative to use a sterile knife, for we cannot here nullify the effects of infection by careful after-treatment, as we sometimes do in

man. A small kennel is necessary, so that no temptation is offered to the dog to move about; and finally a 1 per cent. solution of atropia should be dropped in the eye three times daily during the first three weeks. As regards the anæsthetic to be used, my preference—from considerable experience—is in favour of ether, and I have always been under the impression that it was particularly unsafe to administer chloroform to dogs. Dr. Clement tells me that he always gives chloroform and precedes the administration of it with a hypodermic injection of morphia, and that he has never had any unfortunate results, a fact which he thinks is explained by the administration of the morphia.

DISTOMATOSIS IN CATTLE.

BY VETERINARY-CAPTAIN H. T. PEASE, F.Z.S.

THE occurrence of Distomatosis as a serious epidemic disease amongst cattle in India, has not been sufficiently brought to notice, although the presence of the fluke has been frequently noted in the livers of oxen which have succumbed to other diseases. The chief causes of this are ignorance of the diseases attacking cattle, and the fact that the parts of the country where this malady occurs are for the most part not situated where veterinary aid can be obtained, nor are men trained as cattle doctors sufficiently educated or supervised to admit of diseases being carefully diagnosed.

In very many parts of India the conditions are extremely favourable for the development of low forms of animal life, and sheep fluke is a scourge. The country in such parts is subject to periodical inundations, which gradually subside, leaving marshy land, producing a growth of coarse grasses and sedges, an extremely favourable soil for the development of infusoria and other low forms of animal life. An outbreak of Distomatosis is now reported by Stock Inspector Seethamber Davoo, from the neighbourhood of the Collair Lake in the Godaveri district where it is locally named "Iduga," and the disease is also known in parts of the Punjab under the general name "Panilag."

A brief notice of the disease as it occurs in the Collair Lake may prove of interest.

The Collair Lake is surrounded by the villages of Ellore, Bhumavaram and the Gudwada taluqs. The fields on the border of the lake are inundated during the rainy season owing to surplus irrigation water flowing into it. The lake contains the greatest amount of water during the rains, *i.e.*,

in the months of September and October, and this gradually evaporates from December to May, during which latter month the lake contains the minimum quantity of water and this quantity is pretty constant until the early rains. The shores of the lake are at this season densely covered with decaying mosses, the water being black and muddy and emitting an unpleasant odour. The disease "Iduga," which causes great mortality amongst cattle and sheep, is enzootic in this tract, and according to the accounts received from village officers appears to carry off four or five head of each cultivator's stock annually. Paddy (rice) cultivation has been extended up to the borders of the lake, and the people are obliged to send their cattle during the cultivation season to the uplands to graze, and after the harvest bring them back to graze on the shores and in the bed of the lake from February until June. The cattle, when they are put on to the lake to graze, improve in condition and milk yield and this continues for some time afterwards, but is followed by gradual loss of condition. The people say that cattle fed on the grass grown in the stagnant water are certain to contract the disease. There is a general complaint in every village that a great number of cattle, especially buffaloes, die annually, and that they suffer much loss in consequence. The permanent "Kurnam" of Siddapuram complained that he had bought eight hundred rupees worth of cattle last year, but only a few remain now. It appears that the greatest mortality occurs during the transplanting of paddy.

The most marked symptoms of this disease are gradual emaciation, unhealthy appearance of the skin, watery condition of the mucous membranes, and what is more especially noticed by the people, the appearance of œdemata on the dewlap, and sometimes also in the submaxillary space, and under the abdomen. The skin becomes dry and the animal hide-bound. Digestion is deranged, rumination irregular, and the action of the bowels irregular, the animal is occasionally constipated, at other times suffers from diarrhœa. These symptoms gradually increase in intensity, and the diarrhœa becoming marked, death supervenes from exhaustion at between two to four months after the first symptoms have been noticed.

The following *post-mortem* appearances were noticed in a buffalo dead of the disease :—

Body extremely emaciated, the skin tight and dry, dropsical effusion into the subcutaneous tissues, the fat replaced by a gelatinous material. All the tissues were pale

and flabby. Liver greatly enlarged, all ducts filled with flukes, about five ounces in quantity, and the gall bladder also containing a number of them, about 100, the bile of a black colour, duct dilated, the right lung congested, and exhibiting a dark nodule on the external surface.

INTESTINAL OBSTRUCTION IN THE HORSE.

BY I.

MUCH as has of late been written on intestinal obstruction in the horse, it is a subject of never-failing interest to the veterinary surgeon ; and the following brief remarks of a case which terminated fatally, in which the obstruction was due to the presence of a tumour situated at the junction of the floating colon and rectum, will, I trust, prove of some interest to readers of the VETERINARY JOURNAL. The specimen was forwarded to Principal Williams for examination, and he has kindly promised to describe its nature and appearances. We constantly hear of cases of obstruction due to twists, displacements, strangulation, &c., but seldom are tumours demonstrated as giving rise to this condition ; more seldom still are we able to diagnose to a certainty their presence during life. But in this case the diagnosis was made comparatively easy, inasmuch as the tumour could be felt on rectal examination. The subject from which the specimen was taken was a seven-year-old cart gelding, in good condition. There was no history of previous illness for several years, at least. The animal was first noticed to be ill, with symptoms of colic, on Sunday, December 22nd of last year. Various remedies were tried, but the pains, however, continued, and I saw him for the first time on Monday, the 23rd. The symptoms were more or less continuous abdominal pain, as shown by the animal looking at the flanks and pawing with the fore-feet. The pains were never very severe, and, when down, the horse would lie quiet for twenty or thirty minutes. The pulse and temperature, however, plainly showed mischief, the latter on my first visit being 103 F., and the pulse 70, gradually rising to 105 F. and 100 respectively. There was also that characteristic expression of the face seen in enteritis, but not quite so pronounced, perhaps, as in an acute attack of that fatal disease. It was not until my second visit on the 24th, I made out the nature of the case, owing simply to a too hurried examination per rectum on my first visit. As already said, the tumour was attached to the floating colon at its termination, almost blocking the entrance

to the pelvis, and it was with some difficulty that the hand could be passed beyond. Owing to ulceration the hand, when withdrawn, was covered with shreds of dead tissue and clots of blood, emitting a most repugnant odour. The animal lived until Friday, the 27th. During this time there was complete obstruction, nothing being passed beyond what was removed by the hand. The only medicine used was chloral hydrate alternately with ext. belladonna. No other tumours were found at the *post-mortem* examination, which was made under considerable difficulties on a dark and wet night with the aid of a carriage-lamp.

[EDITORIAL NOTE.—The tumour which weighed 11½ lbs. was of a firm consistence, and on section was of the palest pink colour. The surface had a lobulated appearance. The growth had apparently begun in the submucous connective tissue, and pushed its way through the peritoneum, and formed a large pendulous mass, inseparably connected with the bowel. Inside the bowel was ulcerated through, and a shallow cavity, where frequent hæmorrhages had occurred, had been scooped out of the tumour. On hardening, and examining microscopically, the growth was found to be a sarcoma and more nearly conformed to a lympho-sarcoma than to any of the other varieties. In places the section showed a mass of large round cells, in other parts bands of fibrous tissue advancing among the cells shaved off groups of them much in the same manner as one sees occurring in common cirrhosis of the liver. The cells in the groups were seen under the high power to have changed from round to spindle cells in many cases, and appeared to be forming more new fibrous tissue.]

PATHOGENIC BACTERIA.

PROFESSOR BRADLEY, at a meeting of the Border Counties Veterinary Medical Society, gave a lecture, or rather lantern demonstration of "Pathogenic Bacteria," of which the following is an abstract :—Bacteriology, he observed, had made such rapid strides of late years that it was necessary that all veterinary surgeons should possess a knowledge of the life history of these minute organisms, in order to adequately cope with an outbreak of contagious disease. It was often remarked that a great deal of imagination had to be brought into play in connection with bacteriology, but the images he now showed by the lantern were from photographs of the actual bacteria, and the negatives had not been retouched.

The most common surgical case a veterinary surgeon had to deal with was a wound of a suppuratory type. He exhibited a slide of organism almost always found in pus. Numerous different germs were described, but the most common one was that which he now exhibited, the staphylococcus pyogenes aureus. It was known by this name from its mode of growing in little clumps, and because as a rule the pus in which it was found was of a golden colour. The question arises whether suppuration can take place without the presence of germs. One is not in a position to assert definitely either one way or the other. A number of experiments had been conducted to try and prove that these germs were there by accident, and were not absolutely necessary to the production of pus. One experiment he might quote was conducted by Councilmann and others. They took certain irritating chemical bodies, *e.g.*, croton oil mixed with olive oil, and enclosed them in a glass capsule, rendering everything aseptic. This was introduced under the skin of an animal and the wound kept as clean as possible, and when it had healed, the capsule was broken, and suppuration found to take place without the presence of these organisms. Other observers, however, take a diametrically opposite view, and the question must be left *sub judice*. He next showed an illustration of the tetanus microbe. For a number of years this disease was looked upon as non-specific. It was only comparatively recently one could say definitely what was the causal agent. It was discovered that this germ lived in garden mould, and tetanus was produced by inoculation with such mould. It was very peculiar in its method of living. In the first place it was what was known as an anærobic germ—*i.e.*, one which grows better without free oxygen—and preferred an atmosphere of hydrogen. Another thing was, that it grew locally in the body. It was not to be found in the blood or lymph, but associated with other organisms in a wound. It was customary to consider tetanus as of two kinds. It would be described as heresy, he was afraid, if he was to say that there was no such thing as idiopathic tetanus; there might be a wound on a mucous membrane. Any wound which would admit the entrance of the germ would account for tetanus. The peculiar swelling at the end of the organism was due to the presence of a spore. The life history was very illustrative of that of germs in general. He pointed to the bacillary form, then to the growth of the spore at one end, characteristic of the "drum-stick" bacillus, next, to the bacillus leaving the

spore, and to the spore being set free and remaining quiescent, with a tenacious hold upon life until access to the animal organism was gained, when fresh bacilli were formed.

The next slide showed a germ which (said the Professor) would interest Mr. Thompson particularly. This was the bacillus anthracis, which laid claim to be the most popular of all organisms among bacteriologists. It was one of the first pathogenic germs isolated, and it was one of the easiest to cultivate, as it grew almost anywhere and anyhow. One thing it insisted upon was a good supply of oxygen. It could live without free oxygen, but it did not live at all well, so that it was an oxygen-loving germ. The form in the lung substance (slide exhibited) was the form it assumed always in the animal body. It was the first stage of its life history. In the animal body it took upon itself a rod-shaped form, and when it multiplied it did so in the simplest manner possible, by cutting itself in two. Here he showed the bacilli in the blood; and in a number of cases they saw two attached to each other, caused simply by one germ dividing into two. This was its only method of reproduction in the animal body. The other phase of its life history was reproduction by spores, but a spore could only form when free oxygen was present, so that blood must be shed for this to take place. If the carcase was not opened then no spores can form, and as these spores can retain their vitality probably for years, it is necessary to prevent their formation, if we wished to prevent subsequent spreading of the disease. An intermediate step in its life history was best illustrated in the pure cultivation. The bacilli, instead of being isolated, were arranged in filaments, end to end, in a beautiful and intricate pattern. As they would observe by the slide, the threads were composed by short segments, each segment being a bacillus. These threads were not to be obtained in the blood, because of the circulation of the latter, and if a filament did happen to form it was soon broken up. In artificial cultivations the bacilli were at rest and could adhere together.

Another slide he showed exhibited the germ of diphtheria, which he brought before them because of the recent convulsion in the medical profession caused by the discovery of the good effects of anti-toxic serum. The same organism caused diphtheria both in human beings and in the lower animals. It was an example of a locally-growing germ, being only found in the superficial strata of a diphtheritic patch; so that,

like the tetanus bacillus, its toxic effects were produced by the ptomaine formed by its growth.

Another slide he showed was interesting because it showed an organism causing croupous pneumonia, particularly in man. The germ was found in the lungs of croupous patients, and, unfortunately, was almost always associated with some other germ. For some time it was thought to be an accidental circumstance that it should have been so found; but now it was pretty generally accepted as the causal agent of croupous pneumonia. A notable point was that it was not only found in croupous, but also in other forms of pneumonia. The bacillus was short, and two of them were generally attached together and surrounded by a clear zone.

His next slide was a specimen of tubercle bacilli situated in the lung substance. The nodule had undergone caseous changes in the centre and the bacilli were arranged in a ring; they simply retreated on the exhaustion of food supplies and invaded fresh tissues.

(Mr. THOMPSON: "Like a fairy ring.")

Professor BRADLEY said they were very similar.

The bacillus of tuberculosis was isolated and cultivated by Koch in 1883, it having defied all methods for a number of years. It is one of the smallest of bacilli, its entire length not exceeding 8μ and rarely attaining 5μ, or roughly $\frac{1}{3000}$ of an inch. Another reason why the full life history could not more easily be worked out was the difficulty experienced in growing it in artificial media. That difficulty had now been, to some extent, overcome. Another slide now shown was prepared from a pure cultivation and showed more of the morphology of the bacillus. There were a number of stained parts and an intervening number of unstained parts, so that it was well said to be a "beaded" organism. Another feature was that it was sometimes bent. It required free oxygen for its growth, and it was to be found not only in the tubercular tissues of the body, but also in some of the excretions and secretions. It is sometimes found in the milk, and this had great bearing upon the spread of tuberculosis. It has also been described as being present in the semen. If this was so it might throw some light upon the somewhat strange circumstance of very young calves having tubercular meningitis, etc. One knew that the tubercle bacillus grew rather slowly and how such a large number of nodules could grow in so short a time, supposing that the calves only get the bacilli after birth, seemed rather wonderful. This point, however, had still to be worked out, and they could say nothing definite as yet.

There were only some one or two cases on record of bacilli found in semen, and these were human. He did not think that the veterinary pathologist has worked on the subject at all, so they must hope for further light at a later date.

He said he need not enter upon the discussion as to whether meat from a tuberculous animal was fit for human consumption, as so much seemed to depend upon the individual case.

The next diagram showed the bacillus of glanders, which closely resembled that of tuberculosis, but grew rather more rapidly, as glanders was a more acute disease. It was found in the local lesions of glanders and farcy, in the nodules on the lung, etc. It did not seem to be distributed throughout the body. They had heard from the President an account of the effect of mallein. This was merely a glycerine extract of the bacillus mallei. To describe very roughly the mode of preparation, he would say that a pure cultivation was made of the bacillus; then glycerine was added, the germs destroyed, and the whole thing filtered, the glycerine dissolving the ptomaine. Its diagnostic properties were invaluable. Tuberculin was a similar body, but its diagnostic properties were, probably, not quite so good. To suppose that tuberculin was a therapeutic agent, he added, was to fall into an error; its therapeutic value was probably *nil.*

Another slide exhibited was of actinomyces, which produced a common and important disease in cattle, &c. It had been playing hide and seek for a number of years with bacteriologists who wished to classify it. One had been sure it was a fungus, but to correctly and definitely classify it once and for all had been another matter. Showing a section of the liver of a human subject, he said the organism was seen in a number of distinct filaments. Transferred to artificial media they grew as filaments for some time, but when their food supply became deficient they developed into clubs. In the club-shaped condition spores were probably formed and lay dormant until a suitable medium enabled them to again develop and form filaments. It was a matter of speculation how the organisms were disseminated. The organism had been discovered connected with herbage, and it was more than probable that it got into the mucous membrane through a wound or perhaps through a careous tooth. There was another means of gaining access by inhalation, but there were few authentic cases on record of this. A probable way was by ingestion.

Professor BRADLEY concluded by saying he had endeavoured

to avoid as much as possible placing before his audience doubtful points, and had desired to be as dogmatic as possible.

A MYSTERIOUS HORSE AND CATTLE DISEASE

BY R. STEWART MC DOUGALL, M.A., B.SC.

"I HAVE had a good many horses affected by apparent confusion of eyesight or enlargement of the pupil, shown by their lifting up their feet as if obstacles were in their way, later on, their gait is staggering, and they start and tremble on any unexpected surprise, as of anyone approaching them. Final stages, loss of sense, uselessness, eat by moving their jaws in a jerky manner, stuffing their mouths full, and grabbing at their food, indigestion, will not drink unless the water is raised to their head, seem to be stiff in the neck at back of head, lose flesh, and die in convulsions."

The letter from which the above is an extract, has reference to an outbreak of disease in California, and concludes with a request for information.

From the symptoms quoted there seems to me to be little doubt but that the horses are suffering from so-called "loco-weed" poisoning, and, in reply to this and similar letters, we propose to give a short historical account of "loco poisoning," adding a few suggestions as to the probable cause.

The term "loco" is well-known in Mexico and the Western parts of the United States. It means "crazy," and is descriptive of the dazed and stupid condition of affected animals. Legend tells us how Mexican women, tired of husband or lover, made a decoction of "loco-weed," and administered it to the unsuspecting victim of whom they wished to be rid. Death followed, generally preceded by insanity. But if we hear of "desperate diseases" we also know of no less "desperate remedies," for in other parts of America, the enormous distention of the abdomen of a horse or a cow (a characteristic in bad attack) was relieved by a "knife thrust or a pistol bullet through its walls," and an exit being thus made for the accumulated gas the animal was assured of a "complete recovery."

The term "loco-weed," while perhaps applied most frequently to "*Astragalus mollissimus*," includes many species of the astragalus genus, and also some allied genera, *e.g.*, *oxytropis Lamberti*. The astragaleæ is a tribe of leguminous plants, and the genus astragalus contains a very great number of species. In Britain there are three; *A. hypoglottis*,

purple-milk Vetch, *A. alpinus*, and *A. glycophyllus*, sweet-milk Vetch, so called from the old notion that cows fed on it gave an increased quantity of milk. Another name of this last species is liquorice vetch, and we have often seen boys chewing the long roots for the sweet juice they contain. None of these three species have had a bad reputation, indeed Glycophyllus is said to make very good hay. The species of Astragalus in North America that I can find any record of as associated with "loco poisoning" are *A. mollissimus*, *A. bigelovii*, *A. oxyphysus*, *A. cratolariæ*, *A. menyiesii*, *A. dong-lasii* (these last four from California). There are a number of other species, undetermined however, blamed for damage, *e.g.*, I have just heard of cases in Cyprus and in Australia, but the species was not mentioned.

Early in the eighties (about 1882, or so) a Dr. Isaac Ott, in America, as a result of some experiments to determine the physiological properties of *Astragalus mollissimus*, one of the "crazy weeds," tabulates the action of the plant as follows:—

1. It decreases the irritability of the motor nerve.
2. Greatly affects the sensory ganglia of the central nervous system, preventing them from readily receiving impressions.
3. Has a special tetanic action.
4. Kills mainly by arrest of heart.
5. Increases the salivary secretion.
6. Has a stupefying action on the brain.
7. Reduces the cardiac force and frequency.
8. Temporarily increases arterial tension, but finally decreases it.
9. Greatly dilates the pupils.

In spite of this very definite statement, however, later investigations would seem to prove that the plants accused really possess no toxic properties.

About the year 1880, so great were the complaints in Kansas, U.S., as to the amount of harm done to horses and cattle pasturing in districts there where the plant (*A. mollissimus*) was extremely common, that the Legislature took up the matter and adopted measures for the rooting out of the plant from the State. A law was passed which enacted that any person digging up not less than three inches below the surface of the ground, any loco or poison weed during the months of May, June, and July, should receive a premium of $1\frac{1}{2}$ cents. for each pound of the weed dug up, the weed to be weighed in the dry state and not in the green. Up to 1887, over 200,000 dollars had been paid in connection with the law. During this time Professor L. E. Sayre visited many of the

cattle ranches in Kansas State, collecting information. His results are recorded in one of the American pharmaceutical journals. Chemical analysis and examination revealed no poisonous principle in the plant. Finding that decoctions had no harmful effect on the lower animals, such as frogs, cats, and dogs, and convinced that there were no toxic properties, he experimented on himself. Beginning with a dose of 15 minims of an alcoholic preparation, taking every three hours a teaspoonful, he increased it by degrees to a tablespoonful, and was aware of no bad effects. Similar results attended experiments made by Dr. Kennedy in 1888, and communicated to the *Pharmaceutical Record*. Very large quantities of decoctions from the loco-weed were administered to fasting dogs and no harm resulted. Later still, Professor Mayo, of the Experimental Station, Manhattan, as a result of experiments made on himself, followed on the same side. This body of evidence almost of necessity puts the non-toxic properties of loco-weed beyond dispute.

In conclusion, I might summarise the opinions put forward at various times to account for the loco disease, adding a note as to the likelihood of correctness in each case.

a. The presence of a toxic property of the nature of a narcotic. Animals are said to eat the loco weeds greedily, and the habit has been compared to the opium or alcoholic habit of man. I have already pointed out that this view receives no support from chemical examination or physiological experiment.

b. A fungus parasite of the nature of Ergot (*Claviceps purpurea*). This has been suggested as a possible cause of loco disease on the ground that the attack does not appear in every season. The Ergot theory may be put out of court, as if such vegetable parasite had been present it must long ere this have been demonstrated.

c. Some animal parasite. Here again this explanation may be put out of court, for although in the earlier stages of inquiry there was no efficient survey by skilled veterinarians, there are now complete records of *post-mortem* examinations with no mention of a parasite.

d. The disease is the result of mal-nutrition or mal-assimilation. Here it seems to me the best explanation is to be found. The animals eat large quantities of the food and greedily, but in some way or other, perhaps by ferment action, there are changes which prevent proper assimilation, and lead to emaciation and death. This is the view championed by Dr. Mayo, who suggests that if the loco weeds do contain the

nutritious material characteristic of other leguminous plants, perhaps it is not in a form in which it can be assimilated by the animal. The fits of delirium he accounts for by the possible formation of "clots or thrombi in the blood-vessels of the brain, as there is a well-known tendency to their formation during wasting and debilitating diseases."

(*To be continued.*)

ALBUMINURIA IN CATTLE.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

THE article on the above subject, by Mr. Curbishley, which appeared in the VETERINARY JOURNAL of April, has induced me to make a few remarks thereon.

In the first place, the presence of albumin in the urine does not, by any means, infer that this condition is to be attributed to Bright's disease in every instance. According to Quain's "Dictionary of Medicine," albuminuria is a condition characterised by the presence of albumin in the urine. It has been said to occur in consequence of various conditions, *e.g.*, changes in the blood, changes in the circulation, changes in the kidney. The condition is divided for the purpose of distinction into two kinds.

(1.) *False albuminuria*, in which some other albuminous body than serum-albumin is present.

(2.) *True albuminuria*, in which serum-albumin, frequently accompanied by globulin, appears in the urine, and in which there is always some change either in the renal circulation or in the structure of the kidney itself.

On the other hand, in *false* albuminuria, the albumin passes out through the kidney without there being any alteration either in the circulation or structure of the latter.

True albuminuria, when not depending on structural changes in the kidney, is believed by authorities to be due to increased pressure in the renal veins, and this belief has been verified by experiments. As factors in the production of this condition may be mentioned venous congestion, when the onward flow of venous blood is obstructed by the pressure of a tumour, or of the pregnant uterus upon the renal veins, or the vena cava, by disease of the liver causing obstruction to the vena cava. Other causes might be included, but it will suffice to state that albuminuria may be also present in lesions of the nervous system, in which cases the condition may be attributed rather to changes which these produce in the circulation, than to any direct action

of the nerves upon the renal tissues. Having studied these facts, it now remains for us to compare the clinical history of Bright's disease of the kidneys in any of its forms, and occurring either in human beings or in horses, with that of milk fever in cows, and seek for any points of resemblance. As regards horses, I fail to see the slightest points of similarity in the clinical history of these two affections. The crucial diagnostic test of the pathological condition of Bright's disease, either in the acute or chronic forms in these animals, is by a chemical and microscopical examination of the urine. Symptoms alone will not assist us, as all varieties of peculiar postures may be assumed by such patients, the quantity of urine secreted cannot be accepted as a reliable guide, and the presence of albumin in the urine would not warrant us in giving a definite diagnosis. On consulting works in human medicine, I find that albuminuria and general dropsy occurring in pregnancy depend in a certain proportion of cases on Bright's disease, but in many of these cases changes in the kidney are very slight or entirely absent (see Flint's "Practice of Medicine.") In the acute inflammatory form of Bright's disease, suppression of urine may occur, followed by coma or convulsions leading to a fatal result.

But in the clinical history of milk-fever I have never observed suppression of urine; the bladder is usually distended, and after withdrawing the urine with the catheter, the secretion goes on in the usual manner. Again, the quick manner in which many cases of milk-fever recover, certainly does not point to the existence of a condition similar to that of Bright's disease; when cases recover there are no evidences of any renal disorder.

The treatment with chloral hydrate, which has proved so successful in many hands, certainly would not be considered appropriate, nor could it prove of benefit if the affection depended on Bright's disease. The chronic forms of Bright's disease may be excluded altogether from the comparison. That albumin is found to be present in the urine in many cases of milk fever is an interesting fact, but the probability is that the cause of its presence must be attributed to the nervous phenomena which characterise this disease, rather than to any structural changes in the kidney.

It would prove interesting and useful if the urine of a large number of cows, both before and after calving, were examined for the presence of albumin, because if it were only found to be present in those which afterwards developed milk fever, it

would prove valuable in the way of early expectant treatment.

The only disease in human beings which bears any sort of resemblance to milk fever in cows, is that termed eclampsia. This condition is regarded as assuming two forms, viz., when occurring in asthenic and in plethoric patients.

In the plethoric patient, the affection commonly assumes an apoplectic character from the first, setting in by a violent convulsion, immediately after which the patient falls into a comatose state, the convulsions recurring at frequent but irregular intervals. In favourable cases the convulsions cease, and consciousness is slowly regained. In other cases the coma may become more profound, the pulse laboured, respiration embarrassed, extremities cold, and death occurs after a violent convulsion. This affection may occur at any time of pregnancy, as well as within the puerpural period, but is more frequent during the latter months of pregnancy. Innumerable theories have been advanced as to the cause of this affection, just as in the case of milk fever. Some believe that it is the result of uræmic blood-poisoning, probably consequent to nephritis, acute or chronic, as the convulsions are frequently associated with dropsy, albuminuria, and diminished excretion of urea. Recently, however, a theory known as the "Traube-Rosenstein" ascribes the cause to cerebral anæmia consequent on serous effusion disturbing the cerebral circulation, probably resulting from increased arterial tension during pregnancy.

This theory gains weight by the fact that eclampsia may occur irrespectively of any renal disease, and without the existence of albuminuria. One portion of the treatment recommended is to administer nerve sedatives, such as bromide of potassium. Certainly, there are some points of resemblance between the two diseases, but the dropsy, œdema of upper extremities, face, etc., is not found in milk fever. The readiness with which some cases of milk fever yield to the treatment with chloral hydrate, and the total failure of this drug in others, would lead one to suppose that the pathology of the disease was not always constant. The manner in which an hypnotic, such as chloral when administered to an animal in a comatose condition, such as in the secondary stage of milk fever, will bring back a return to consciousness, is one of those mysteries which the science of therapeutics has yet to unravel. That it does so, we have ample proof in many cases ; to explain it is a different matter. It is easy to make the statement that chloral has the power of dilating the cerebral vessels, which in this disease are

constricted, so as to produce anæmia of the organ. But what proof have we of this assertion? It is simply arranging a theory to fit in with a fact. We are not yet aware of the precise action of chloral in the healthy brain. We have not as yet discovered the pathology of milk fever, so any assertions dogmatically made as to the manner in which the disease is to be treated on rational lines, must be ascribed to the conceit which springs from human ignorance.

Editorial.

THE ELECTION OF EXAMINERS.

THE new Board of Examiners has now been elected, and, on the whole, the selection is one that should command the confidence of the profession and of the public. There are two matters, however, which might have been more satisfactorily arranged, and the first is, the non-election of an Irish representative. I hold this to be a grievous error, and one that will form a very strong and plausible argument in favour of a Charter for the proposed College in Dublin, a Charter which, I believe, is to be discussed in the House of Commons very shortly. It is lamentable to think that out of the numerous veterinarians in Ireland, many of them men of high standing, not one was deemed sufficiently able to hold the position of Examiner. But matters seemed to be otherwise arranged in London previous to the day of election, and it was remarked by some of the members from a distance that they might as well have stayed at home.

A letter appears in the *Record* of 20th inst., reproduced from the *Irish Daily Independent*, signed "An Irish Practitioner," bitterly complaining against this injustice to the Irish Candidates and to the profession in Ireland. The Editor of the *Record* endeavours to dispose of the complaint in, to say the least of it, a manner ill-calculated to soothe the irritation of the "Irish Practitioner." He replies to the writer in the following terms: "An accusation of this kind, if really made by a member of the profession, is as cowardly as untrue. Possibly we have mistaken the writer's spirit. His letter may have been dictated, not by malevolence, but by ignorance." This style of reply seems to me to be more in the way of abuse than of sound reasoning. Can the Editor of the *Record* say that the question of nationality has not played a most important part in the history of the pro-

fession? If he were to trouble himself to look back, he would find that for about 40 years the profession was divided, because in 1844 Professor Dick considered that his students did not obtain fair play from the English Board of Examiners, and he had to fall back upon the Highland and Agricultural Society of Scotland to appoint a Board; this Board was composed of representative medical men and veterinary surgeons and conducted the examinations, which embraced views as broad and as highly scientific, according to the science of the day (if, perhaps, lacking in petty matters of details) as those conducted at the present time by the Board of the R.C.V.S. A few years ago some of the Scottish members of the profession complained that Scotland was not fairly represented on the Council and agitated for territorial representation. I had no sympathy with that movement, as I considered that the Scottish schools were fairly well represented. These facts, however, go to prove that nationality is not to be laid on one side by accusations of "narrow ignorance," the "avoirdupois weight of an examiner" and other phrases, from which all sense of delicacy is conspicuous by its absence.

The second point is the non-appointment of a member or members of the profession to the morbid anatomy and pathology table. No one can object to the two gentlemen appointed; they are both of the highest eminence in their special department, but the subjects examined upon at this table are preeminently veterinary subjects, and the examiners should be more in touch with veterinary studies and teaching than any member of the medical profession possibly can be. It is all very well for the Editor of the *Record* to state that it is only partially true to say that the College elect "medical men as examiners in that subject." If they are not medical men what are they? Experts, says the Editor. Then we are informed that outside the hospitals and medical schools we should no more find "medical" practitioners fit to examine on pathology than we now find "veterinary practitioners." How does the Editor know that there are no veterinary practitioners fit to examine in pathology? Have they been tried? I think the secret is out, and it is this: that in London there are men who think that even to assume the title of veterinary surgeon unfits one for teaching morbid anatomy and pathology; that the subjects can only be taught in London, and that none but experts can examine up to the standard of that teaching.

I am sorry for those "Fellows" of the profession who, in addition to their arduous professional duties, have for years

been preparing themselves for the position of examiners upon this subject.

Members of the Medical profession cannot be possessed of the particular knowledge necessary for the veterinarian; there are many morbid conditions and pathological processes that they never dream of. Has it ever been known that a medical examiner at this table has asked the student to give the pathology and morbid anatomy of a bone-spavin, a ring-bone, side-bone, or a splint? Doubtless it is essential that a veterinary student should know all about pyelitis, gummata, locomotor ataxia, typhilitis, etc., some of which are never seen and others rarely in the lower animals. But I maintain that to give such subjects the major consideration at an examination, and to ignore the more essential ones, is unfair both to veterinary teaching and veterinary students.

ANOTHER NEW ELEMENT.

STILL they come. After an apparent limit had been reached to the extension of our acquaintance with new forms of matter, as judged by the paucity of new discoveries in that direction for some time back, we have just been startled into expectancy by the discovery of argon, and the excitement in scientific circles has not had time to quiet down before a new cause for raising it has appeared. It has been said that, unlike the sciences usually called "pure," the science of medicine has owed all its greatest discoveries to chance adventures and lucky hits—things discovered while other things, perhaps, of minor importance were being searched for. While, no doubt, this is largely true, it cannot be doubted that "pure science" often makes its "finds" in quite the same way.

In the case before us we have a marked example. Professor Ramsay, whose name has been lately so prominent in connection with Lord Raleigh's in the matter of argon, has, it appears, been experimenting with various substances which give off nitrogen when treated with reagents, in order to see whether this nitrogen may not consist partly of argon.

Among several substances tried was a certain rare mineral found near Arendal, in Norway, in 1878, and named "cleveite"* (after a famous Swedish mineralogist, Cleve), which had for some time been known to give off about two per cent. of nitrogen when treated with warm dilute sulphuric acid. After "sparking" through this gas, as had been done with air when

* Cleveite is essentially a uranate of lead, with salts of other rare metals. Iron and thallium are also present.

argon was discovered, the previously-assumed nitrogen turned out to be nitrogen and argon, and—*something else.* The requirements of space permit us only to remind the reader that for, several years past, chemists and astronomers have been as certain of the existence of certain elements in the sun as of their existence on our globe. Among these, perhaps, the most easily determined by that wonderful instrument of modern research, the spectroscope, is sodium, the cause of the spectral lines D_1 and D_2 in the spectrum of the sun or of a common candle.

In the same yellow part of the solar spectrum, however, has always been noticed another line indicated as D_3 which hitherto has been seen in the spectrum of nothing belonging to our earth.

This hypothetical solar element has since 1868 been known as "helium."

All search for this substance among terrestrial matter having failed, it came to be of interest only to those enquirers whose nearest subjects for dissection are to be found far outside the globe, with which we have to be contented. But now to be short, the *other something* found by Professor Ramsay in cleveite, along with nitrogen and argon, is "helium;" the proof we need scarcely say lies entirely in the fact that, by applying the spectroscope, the line D_3 is seen exactly as it appears in the solar spectrum.

As the first example of a new element being discovered on earth, after first finding it in the sun, this discovery is unique.

As to a possible utilitarian application, say as a drug, we must wait for "developments." It appears something has already been done with argon, but should neither argon nor helium appear during our day in a list of "simples," we shall still feel assured that no real knowledge is worthless.

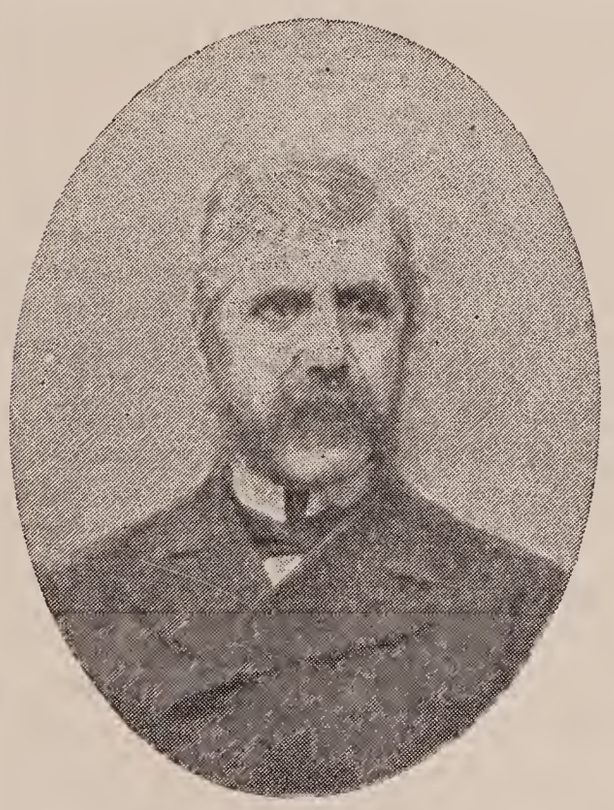
THE LATE MR. THOMAS GREAVES, F.R.C.V.S.

THIS widely-known and highly-respected veterinary surgeon has recently been removed by death, and was laid to rest in Bowdon Churchyard on Saturday, April 20th, 1895, amid many manifestations of the esteem and regard in which he was held.

Mr. Thomas Greaves commenced his long and honourable career in the profession of a veterinary surgeon as a pupil of his cousin, the late Mr. John Greaves, of Altrincham, and after the usual college curriculum was

admitted as a member of the Royal College of Veterinary Surgeons in 1841, and joined his master in partnership. They practised for some years both at Knott Mill, Manchester (where the business was founded as far back as 1829), and at Altrincham. Subsequently they dissolved partnership, and Mr. Thomas Greaves was henceforth identified with the Manchester district, Mr. John Greaves retaining the Altrincham portion of the practice.

He was a true lover of his profession, and an ardent enthusiast. Along with others of his contemporaries, he laboured long and earnestly to raise the status of the veterinary profession, both internally and in the eyes of the public; and to this end spared neither energy, time, nor money.



He became well-known all over the country, and was much sought after as a consultant, especially in troublesome and disputed cases in law. Of a warm and generous nature, he was ever ready to extend a helping hand to a professional brother in a difficulty, and was also a willing helper of the widows and children of deceased members of his profession. These two great objects he helped to place on a satisfactory and permanent basis, by assisting to found the National Veterinary Defence Association, and the National Benevolent Association, of both which societies he was Treasurer up to the time of his death.

His profession recognised his worth and work, and he was elected a Member of the Council of the Royal College of Veterinary Surgeons, a position which he filled for many years.

In 1869-70 he was elected President of the Royal College, the highest position of honour to which a veterinary surgeon can aspire, and which office he filled with

much ability, as also numerous other positions of honour in the profession, his portrait, in oils, being subscribed for by the profession and presented to the Royal College of Veterinary Surgeons, in the Council Chamber of which it now hangs. In 1877 he was elected to the newly-founded degree of Fellowship, and became F.R.C.V.S.

In his large and extensive practice he won an equal position of respect with his varied clients, and held the confidence of the public in many ways; and in this practice, for a considerable number of years, he had the advantage of the great help of Mr. Edwin Faulkner, who was successively his pupil, assistant, and partner, exactly as he was himself with Mr. John Greaves.

For some time his health has been failing and his many friends were thus prepared for his death. At the solemn and impressive funeral service in Bowdon Church, the principal mourners were his two professional partners, Mr. Edwin Faulkner and Mr. Lloyd Jones; Mr. W. J. Ridgway who was for many years their trusted and confidential servant; and the trustees under the will.

Representative veterinary surgeons from all parts were present, as also several distant relatives and friends, and very many letters of sympathy and regret were received from those unable to attend. A touching mark of respect was shown by the employées of the deceased's firm, who lined the approach to the church. There were many beautiful floral wreaths sent by Mr. and Mrs. Ockleston, Miss Greaves, Mr. and Mrs. E. Faulkner, Mr. and Mrs. Lloyd Jones, the employées, &c., &c.

His wide circle of clients and friends will be pleased to know that his name is not to be forgotten, for his partners (Mr. Edwin Faulkner, M.R.C.V.S., and Mr. Lloyd Jones, M.R.C.V.S., the former of whom was associated with him 25 years, and the latter 12), have decided in carrying on the business to retain the familiar title, "Greaves, Faulkner and Jones." A very sad and mournful fact was that Mrs. Greaves was buried at the same time, having died just two hours after her husband. In her case, death was the result of natural causes, accelerated by an accidental fall. Mr. Greaves was in his 78th year, and Mrs. Greaves in her 81st.

THE PROFESSION AND THE BOARD OF AGRICULTURE.

Copy of Letter forwarded with Report to the Board of Agriculture.

6th April, 1895.

SIR,—I am desired by the Council of the Royal College of Veterinary Surgeons, to express their great regret that, in the changes made at the Board of Agriculture, it should have been thought necessary to do away with the Veterinary Department and the office of Director.

The veterinary profession has always felt proud of the work done by veterinarians for the State—from stamping out the cattle plague in 1866, to the practical suppression of pleuro-pneumonia in 1893. They also very highly appreciate the honour of having one of their members as the recognised head of the Department, entrusted with the control of disease amongst live stock.

The Council fear that the changes made by the Board can only be interpreted as marking a diminished estimate of their profession's value by the highest authority, and that they may react unfavourably upon the estimate held by local authorities, and by the general owner of stock.

I enclose copy of a Report from a committee to which the matter was referred by my Council, and I am desired respectfully to beg your most favourable consideration of the facts and arguments there set out.

[Copies of this Report have already been circulated to each Member of Council.]

I am, Sir,
Your most obedient servant,
A. W. HILL, *Secretary.*

To the Right Hon. HERBERT GARDNER, M.P.,
President of the Board of Agriculture.

Report of Committee re *Board of Agriculture.*

YOUR Committee has carefully considered the resolutions forwarded by the Veterinary Societies of the United Kingdom, and recognises that a feeling of general and widespread dissatisfaction exists throughout the profession with the alleged attitude of the Board of Agriculture.

Your Committee has endeavoured to trace the specific causes of this feeling, and is bound to confess that some of the alleged grievances have no foundation and are merely matters of misunderstanding. Some, however, are but too substantial and require immediate efforts for their alleviation. The conditions which are chiefly complained of result from changes made on the retirement of Professor Brown from the Directorship of the Veterinary Department, and will be more clearly understood after a statement of the previous arrangements.

The Board of Agriculture was formed in 1889, and the Veterinary Department of the Privy Council, with other State departments relating to Agriculture became divisions of the new Board. In 1893 these divisions were the Statistical, the Land, and the Veterinary, each having at its head a director. The staff of the Veterinary Department was as under :—

Director	Professor G. T. Brown.
Chief Veterinary Inspector ..	Mr. A. C. Cope.
Assistant Veterinary Inspector	Mr. W. Duguid.
Chief Travelling Inspector ..	Major Tennant.

The duties of the lay and scientific officers were not too rigidly defined, and it is obvious that in directing such complex machinery as that required to enforce the Contagious Diseases (Animals) Act great difficulties must arise in exactly defining the province of each officer. Such diverse subjects required attention as—the carrying out of the multitude of orders referring

to many different diseases, the work of a large staff of veterinary portal inspectors, enquiries into outbreaks of disease, the delimitation of infected areas, the movement of animals by sea, rail and road, and the guidance of local authorities acting sometimes under compulsory and sometimes under permissive enactments.

In attempting the re-organisation of the department, so as to increase its efficiency, the object aimed at has been stated to be "to prevent men being taken away from work to which they were suited and being put to work for which they had not been specially trained." Under Professor Brown's direction the veterinary officers had, during their sixteen years' special training, sometimes to explain to portal inspectors, to local authorities and to other correspondents the best methods of carrying out the rules and regulations of the Board, in addition to their more immediate duties of making pathological investigations, and generally advising the Board as to the principles upon which rules and regulations should be founded. When the sharp differentiation of these duties is practicable, their division between lay and scientific officers is of course desirable, but in many instances such division is impossible, and in practice a layman would only be able to reply at second-hand after consultation with the experts. Practical efficiency would thus suffer from the interference and delay caused by pedantic classification. It has never been suggested that the veterinary staff were overburdened by their correspondence, or that this part of their work could have been better done by men possessed of no scientific knowledge.

On the retirement of Professor Brown in December, 1893, changes were made in the department which have had the effect of depriving the profession of high civil position to which they are entitled by virtue of services rendered to the State. There is now no "Veterinary" department. There is instead an "Animals" department, under which unmeaning title it is difficult to recognise the division of the Board which has hitherto been entrusted with the suppression of disease amongst animals. This re-named department, like the one it superseded, consists partly of executive and partly of scientific officers, but under the change of name an alteration has been effected which entirely reverses their relative positions. Whilst the other divisions of the Board retain a director as head of each, the directorship of the veterinary section, vacant by the retirement of Professor Brown, has not been filled up. Instead, there are two officers—Major Tennant and Mr. Cope—said to be co-equal and to have separate and distinct duties. The equality is a myth; for if on paper the department is split into two halves—one presided over by Mr. Cope and the other by Major Tennant—the layman is made superior to the scientific man by the title given him in the Civil Service Estimates, where he is described as "Principal" of the animals division. Mr. Cope is relegated to a part of the department whilst Major Tennant is provided with an office extending over the whole. The relative positions of the scientific and lay officers are still further accentuated by the salaries. On Professor Brown's retirement Mr. Cope, after his long service, might well have expected promotion to the vacant post and salary. He has not been promoted and has only received an increase of salary to the extent of £100 a year. Major Tennant —the lay officer—with a shorter record of service is promoted to the principalship of the department and given an increase of £400 a year. Under the old arrangement, the two chief scientific officers jointly received £1,800 per annum. Under the new, the two scientific officers receive £1,525, so that the increase of the lay salary is at the expense of the scientific.

Your committee cannot but consider this change as a reflection upon the capacity of the whole body of the profession, and as one calculated to destroy the efficiency of the department, and they energetically protest against a so-called reorganisation which removes from the hands of a professional

expert the control and direction of a department created for, and solely concerned with, the suppression of disease amongst live-stock. The change of name of the department and the change of position of the officers seem to be explainable only upon the supposition that the interests of the stock-owner had been overlooked and the interests of the veterinary profession ignored. Whatever may be the official explanation, your committee cannot but recognise that whereas the form of organisation which had been in force for a period of sixteen years was eminently successful and gave satisfaction to agriculturist and to veterinarian, the new system has caused dissatisfaction and been accompanied by a striking want of success.

Your committee also find that whilst an enormous addition has been made to the staff of lay inspectors, the staff of professional advisers has been reduced. Up to December, 1893, the veterinary officers of the Board comprised a director and two inspectors. Now, when their services were never more needed, the staff is reduced to two inspectors. It is true that these gentlemen are specially qualified, by their long experience and their tried ability, to advise the Board; but such experience is only to be gained in the department. Should illness or retirement deprive the Board of their services there is serious risk that similar experience could not be obtained. This risk becomes more imminent and more dangerous every month, as no one is being trained to take their places. Failure to recognise such plagues as rinderpest, pleuro-pneumonia, and foot-and-mouth disease in the earliest stages has in previous times involved this country in frightful losses, but in a short time the clinical signs and *post-mortem* appearances of a number of diseases will be only known from books and drawings. Swine-fever and pleuro-pneumonia still exist, and thousands of pathological specimens now pass yearly under the eyes of the veterinary officers. All the experience to be gained from these is being lost because no younger man is appointed to the staff and trained to the duties of the office.

Your committee considers that the reduction of the scientific staff is not only unfair to the veterinary profession, but fraught with the most serious dangers to the agriculturists and stock-owners of the kingdom, and it is confirmed in this view by the remarks of the Duke of Richmond at a meeting of the Royal Agricultural Society on February 8th, 1894. His Grace said: "It seemed to him that it was absolutely essential that the veterinary department should continue to be officered in the same manner as in the past. . . He asked whether this was the time when the veterinary department ought to be weakened? On the contrary, he thought it ought to be strengthened."

The committee has inquired into the complaints made in regard to the travelling inspectors. These appointments are not new, and so long as the duties performed by lay inspectors do not include work which can only be efficiently done by properly-trained veterinarians, no disapproval of their action is entertained. The committee find, however, that the travelling inspectors are now entrusted with duties never contemplated at the time of their original appointment. There is a growing tendency at the Board to increase the duties of the travelling inspector, and to decrease the duties of the veterinary inspector. Local enquiries and consultations as to the best methods of combating the spread of disease were formerly entrusted to veterinary officers. These are now undertaken by lay officers, often much to the amusement of local authorities, who are quick to recognise involuntary displays of utter want of knowledge of animals.

The stamping out of pleuro-pneumonia has been, so far, very successful, and it is stated by the late director of the veterinary department, on page 10 of his last yearly report, that the suppression of each outbreak was conducted "by a travelling inspector, *with the aid of the veterinary surgeon of the district.*" The attempted suppression of swine fever is differently conducted,

as described on page 13 of the report. The arrangements are left to the travelling inspector, *unaided by the veterinary surgeon of the district.*

The disadvantages of this change in dealing with disease are obvious. The presence of a veterinarian at the slaughter of animals for pleuro-pneumonia, guarded the public against the consumption of any diseased carcases, and protected the Government from the wasteful extravagance of destroying healthy carcases. The presence of the expert also enabled the State to obtain most valuable statistics as to the existence of other diseases in the slaughtered animals, and supplied the only trustworthy data as to the prevalence of tuberculosis in this country. The enormous destruction of swine, which has taken place in this Kingdom during the last 18 months, has had no such supervision, and it is impossible to say what unnecessary waste of human food has taken place, or what number of diseased carcases have been permitted to go to the butcher. As to the prevalence of tuberculosis or other disease in swine, a great opportunity has been lost, and no information or statistics are available, although it is generally known that tuberculosis is much more frequent in swine than was suspected a few years ago.

During the stamping out of pleuro-pneumonia, the travelling-inspector was entrusted with the enquiry into the origin and possible spread of each outbreak. In the attempted suppression of swine-fever, he is left entirely to his own devices, not only in tracing out the origin and spread of disease, but in determining whether infected herds should be slaughtered or isolated, or partly slaughtered and partly isolated. This extension of the duties of laymen to such purely technical work as the investigation of pathological problems, or to the very difficult duty of deciding what morbid conditions should justify slaughter, or where isolation should be adopted, or to the important question of selecting what carcases should be buried, and what sold as human food, appears to your committee to be altogether indefensible, and in positive antagonism to the excuse offered for the reorganization of the veterinary department. The extension of the duties of the lay inspectors "to work for which they had not been specially trained," and the removal of the veterinary surgeons "from work to which they were suited," is one cause of the extremely slow progress made in arresting the spread of swine-fever, and is a departure from the older and sounder practice under which more than one contagious disease was stamped out. It is a change detrimental to the stock-owner and to the taxpayer, and one which has not added to the efficiency of the Board of Agriculture.

Your committee advises that the Council take steps to bring these grievances to the notice of the President of the Board of Agriculture, and it suggests that a copy of this report should be sent to every Member of Parliament.

BOARD OF AGRICULTURE,
4, WHITEHALL PLACE,
LONDON, S.W.,
April 19th, 1895.

No. 1058/1895.

SIR,—I am directed by the Board of Agriculture to inform you that they have under their consideration your letter of the 6th inst., together with the copy Report enclosed therewith.

With regard to the salaries and duties assigned to individual officers of the Department, I am to say that questions of the kind necessarily involve personal considerations of great delicacy and difficulty, and the Board feel that it would not be for the public advantage that they should do more than refer in a very general manner to the views expressed in the Report.

The Board desire me to observe, however, that it had for some time past been foreseen that, on the retirement of Professor Brown from permanent duty

at his office, a re arrangement of business must take place. On the one hand recent legislation has largely increased the executive work of the Board, in regard to which it has always been the policy of the Board to look for assistance to local veterinary practitioners as much as possible, and to avoid any unnecessary concentration of professional work in official hands. On the other hand, the great advances made in veterinary science and in methods of pathological research have led the Board to desire that their professional officers should be placed in the best position to take full advantage of those advances and be enabled themselves to carry on those original investigations which have been the basis and foundation of the operations undertaken against disease in the past, but which, so far as the professional officers of the Board are concerned, have in recent years been much interrupted by the pressure of duties of a non-professional character.

It is not probable that the special qualities necessary for the direction of the work now to be done under these two heads will often be found combined in any one individual, and, from the experience which the Board have had of the working of the new organisation during the past fifteen months, the Board are satisfied that the arrangement by which the scientific and administrative duties are assigned respectively to the professional and non-professional officers best qualified to perform them, and subject of course to the general control of the Board themselves, is a desirable one in the public interest.

With regard to the scientific work, I am to say that it is the intention of the Board to foster and encourage investigation by every means in their power, utilising, where necessary, the services of non-official members of the profession, as they have recently been glad to do in connection with the committee of professional experts now engaged in the investigation of certain questions connected with swine fever. With regard to the executive work, the Board will continue to avail themselves as much as possible of the assistance of local veterinary practitioners in the discharge of duties requiring veterinary knowledge for their proper performance.

The Board trust that your Council will see from the foregoing remarks that it is incorrect to measure their appreciation of the services of the veterinary profession merely by reference to the number and aggregate salaries of the officers permanently attached to the central office. If the inferences drawn by the Committee from the arrangements made in 1893 were correct, it would be to the Board a matter of the greatest possible regret, but this is certainly not the case. The Board most cordially and fully recognise the great benefits which stockowners and the public generally have derived from the researches and work of veterinarians and they are satisfied that those benefits will not in any way be lessened, but that both private and official veterinarians will be in a position and be encouraged to extend their work and researches, under the arrangements now in force.

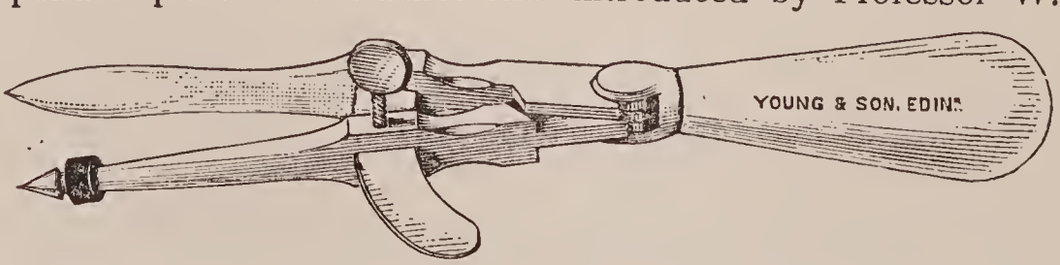
I am, Sir, your obedient servant,

ARTHUR W. HILL, Esq., *Secretary*, T. H. ELLIOTT, *Secretary*.

Royal College of Veterinary Surgeons, 10, Red Lion Square, W.C.

A NEW TRACHEOTOME.

WE append a plate of a tracheotome introduced by Professor W. Owen



Williams, and found by him to be very serviceable. The gauge can be easily

regulated to suit any size of tube. There is no danger of losing the portion excised, nor can the operator insert the instrument too far, and perhaps catch the opposite side of the trachea.

CONTAGIOUS DISEASES ANIMALS ACT, 1894.

England, Scotland, and Wales.

Abstract from the Summary of Returns for the two weeks ending March 30th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Diseased 2461 Died ... 391 Suspected 13 2865	Fresh Outbreaks 24 Animals Attacked 31	Number of Cases ... 45 45	Killed and Died ... 24 24	None

For the week ending April 6th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Diseased 1242 Died ... 212 Suspected 18 1472	Fresh Outbreaks 9 Animals Attacked 95	Fresh Outbreaks 17 Animals Attacked 29	Killed or Died 19	None

Ireland.

Abstract from the Summary of Returns for the two weeks ending March 30th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and Mouth Disease.
None	*Slaughtered* Diseased 336 Died ... 60 Suspected 136 532	None	Cases ... 2 2	Killed and Died ... 39 39	None

For the week ending April 6th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and Mouth Disease.
None	*Slaughtered* Diseased 106 Died ... 40 Suspected 56 202	None	None	Killed and Died ... 7	None

Veterinary Department, Privy Council Office, Dublin Castle.

Army Veterinary Department.

At the Levée held on the 3rd inst., Veterinary-Colonel J. D. Lambert, C.B., Director-General, Army Veterinary Department, attended and presented the following officers:—Veterinary-Lieutenant-Colonel Walters, C.B., C. Phillips, Veterinary-Major J. Burton, Veterinary-Captain L. J. Blenkinsop, and Veterinary-Lieutenants G. K. Walker, and E. P. J. Barry.

Veterinary-Lieutenant E. Wilkinson embarked for India on the 11th inst., having been permitted to exchange with Veterinary-Lieutenant H. Wilkinson, who proceeded to South Africa in his place.

The following officers arrived from India on the 28th ult., and have been granted leave of absence to 30th April:—

Veterinary-Lieutenant F. W. Hunt joined at Aldershot for duty on the 1st instant.

Obituary.

Thos. H. Jowett, Bradford,	graduated	December, 1894.		
H. J. Goodall, Melton Mowbray	,,	April, 1862.		
Henry Pears, Longton, Carlisle	,,	August, 1858,	Fellow,	1879.
Thos. Greaves, Manchester,	,,	June, 1841,	,,	February, 1877.
G. A. Drewe, Alington, Berks	,,	May, 1857.		

Reviews.

Les Exercises de Chirurgie Hippique. Par P. J. Cadiot. (Paris: Asselin et Houzeau.)

In this little book, consisting of some 112 pages, M. Cadiot has set forth, in clear and concise language, the methods of surgical operations performed at the Veterinary School at Alfort. The writer makes no pretensions to literary excellence, and the style may almost be called "telegraphic," but this, we feel sure, will not be looked upon as a drawback, but rather as an advantage, as there is a total absence of "padding," and every word carries its full significance.

The first division of the work is devoted to various methods of casting and securing the horse. Following this is a section devoted to general operations, such as bleeding, production of anæsthesia, setons, ligature of vessels, sutures, and firing. One regrets to find that only one method of producing anæsthesia is given, and that one which is rarely, if ever, adopted in this country, viz., by the intravenous injection of chloral.

The chapter on firing will be found very useful, particularly as it is accompanied by an illustration of the principal regions operated upon, and the different method employed in each.

The section headed—Neck—Thorax—Abdomen, is naturally the most extensive and important in the whole book, no less than twenty-one operations being described, among which we may note tracheotomy, arytenoidectomy, œsophagotomy, thoracentesis, paracentesis, enterotomy, catheterism of the urethra of the horse, castration, operation on the cryptorchid, amputation of the penis, and ovariotomy.

The second section of special operations includes those of the head, which are as follows:—Examination of the eye, (1) by the re-action of the pupil to light; and (2) by the ophthalmoscope. Puncture of the cornea; operation for cataract; removal of the eye; ligature of Steno's duct, trephining the frontal and maxillary sinuses; removal of the molars after trephining; and amputation of the ear. We observe that in trephining the air sinuses, the author directs that a triangular flap of skin be raised; this will probably be

objected to by some practitioners as the flap is liable to irritation during the subsequent dressings; the entire removal of a circular piece of skin being found better in practice.

The tail next comes in for its share of notice, two operations being described, the more important of which is amputation.

In dealing with the limbs, the author describes the tenotonices at some length. Four methods of performing neurotomy are also given, viz., the low and high, and the more rare median and sciatic operations.

The last portion of the book consists of descriptions of operations on the foot, including three for sandcrack.

The book is illustrated by 56 figures, which add very considerably to its practical value, and we feel sure that it will be welcomed by practitioner and student alike, as a handy book of reference.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A QUARTERLY meeting of the Council of this College was held at the College Building, 10, Red Lion Square, Bloomsbury, on Wednesday afternoon, the 3rd instant. Mr. W. Hunting, the president, occupied the chair, and the other members present were: Mr. F. W. Wragg, ex-president, Sir F. FitzWygram, Bart., M.P., Professors J. McCall, J. McFadyean, W. A. Edgar, W. Williams, W. O. Williams, J. Penberthy, Messrs. J. E. Peele, W. J. Mulvey, C. Hartley, J. A. W. Dollar, J. Abson, H. Kidd, J. F. Simpson, J.P., J. Fraser, R. C. Trigger, A. W. Mason, A. Wheatley, E. Faulkner, T. D. Lambert, A. Lawson, G. Elphick, H. Thompson, W. Hunter, and Professor Shave.

The Minutes.

The SECRETARY (Mr. A. W. Hill), having read the minutes of the preceding meeting of the Council,

Mr. J. F. SIMPSON called attention to the fact that it did not appear on the minutes that the report of the Examination Committee which *inter alia* requested the examiners in biology at the forthcoming examination to regard zoology as a new subject, was adopted, or at all events this particular part of the report became a resolution of the Council.

The minutes having been amended so as to express this, they were confirmed.

Absentee.

The SECRETARY read a letter from Mr. Nisbet stating his inability to attend.

Presentations to the Library.

The SECRETARY announced the receipt of contributions to the library including publications of the Pharmaceutical Society, of the Royal Agricultural Society, Professor Simmond's Autobiography, and a work in Hindustanee on "Bovine Pathology." He stated that, by order of the President he had procured a copy of the blue book containing the report of the Departmental Committee of the Home Office, which inquired into questions relating to the London cab trade.

The CHAIRMAN: That was the committee before whom Professor Penberthy represented us and gave evidence.

On the motion of Mr. WRAGG, seconded by Mr. FAULKNER, the secretary was directed to thank the donors for the gifts they had made to the College Library.

Re *Street Accidents.—Fees to Veterinary Surgeons.*

The SECRETARY read the subjoined letter :—

"Whitehall, 2nd April, 1895.

"SIR,

"With reference to your letter of the 12th ultimo respecting the amount of the fee paid by the Metropolitan police to veterinary surgeons for examining horses apparently fatally injured in the streets, I am directed by the Secretary of State to acquaint you, for the information of the Council of the Royal College of Veterinary Surgeons, that having regard to the fact that previous to 1893, 10s. 6d. was the amount of the fee paid to veterinary surgeons for the duties above specified, and that this is the amount paid by the City of London police, the Secretary of State does not feel himself justified in continuing the payment of a fee of 21s. and has accordingly given directions that for the future 10s. 6d. shall be the amount of the fee to be paid by the Metropolitan police for the service in question.—I am, sir, your obedient servant,

HENRY CUNYNGHAME."

Secretary,
Royal College of Veterinary Surgeons,
10, Red Lion Square, W.C.

Mr. MULVEY: We have been paid a fee of a guinea in these cases for two years and now it is to be reduced. If the veterinary profession are of my way of thinking, they would refuse to act in such cases.

Professor PENBERTHY: Can we take any action in the matter ?

Mr. FAULKNER: We can refuse to attend if we think fit.

The Home Secretary's letter was received and ordered to be entered on the minutes.

A Question of Identity.

An application was received from a Mr. Alexander Hamilton requesting to be placed on the Register of veterinary surgeons. He had the certificate of the Highland and Agricultural Society, and now resided at Dunedin, New Zealand.

Prof. W. WILLIAMS said that he remembered Mr. Alexander Hamilton passing as a veterinary surgeon in Edinburgh in 1861, but whether the applicant was the same man or not he could not say.

The CHAIRMAN suggested that they should have a statutory declaration by somebody that the applicant was the same man.

This suggestion was adopted.

Appointment of Examiners.

The Council then proceeded to elect examiners, the following gentlemen being chosen :—

CLASS A.

Anatomy—W. H. Bloye and R. Butler.
Chemistry—J. M. H. Munro and H. Somerville.
Biology—W. B. Walters and J. R. Green.

CLASS B.

Anatomy—G. Fleming and W. F. Peacock.
Physiology—F. Smith and J. B. Haycraft.
Stable Management—R. Moore and T. B. Goodall.

CLASS C.

Pathology—G. Sims Woodhead and S. Delepine.
Materia Medica—F. Dun and J. R. Cox.
Hygiene—J. B. Wolstenholme and J. Clark.

CLASS D.

Veterinary Medicine—W. Duguid and J. Malcolm.
Veterinary Surgery—H. Olver and W. Woods.

FELLOWSHIP EXAMINERS.

Veterinary Medicine and Surgery—Professor Macqueen (unopposed).
Veterinary Hygiene and Sanitary Science—Dr. G. Fleming.
Pathology and Bacteriology—Mr. W. Duguid.

On the motion of Professor J. MCFADYEAN, seconded by Professor PENBERTHY, a resolution was adopted requesting Messrs. Malcolm and Cox to officiate as examiners, under the old system, in "Diseases of the Horse, etc."; Messrs. Dun and Duguid in "Diseases of Domesticated Animals other than the Horse, etc."; Messrs. Olver and Clark in "Practical Cattle"; and Messrs. Woods and Wolstenholme in "Practical Horse."

Finance.

Mr. LAWSON moved, and Professor MCCALL seconded, the adoption of the report of the Finance Committee, according to which liabilities had to be met amounting in the aggregate to £383 8s. After payment of these liabilities there remained a balance in hand of £340 os. 8d. The committee recommended that the treasurer be authorised to draw cheques for examination expenses amounting to £1,200.

The motion was adopted.

The Registration Committee.

Mr. SIMPSON presented the report of this committee. He stated that the committee met on the 6th ultimo and again on the 21st ultimo, and had before them a large number of cases of various reported offences. The solicitor thought it advisable that he (Mr. Simpson) should read that part of the report referring to a charge of unprofessional conduct on the part of a F.R.C.V.S. The committee recommended that the name of the offender be removed from the roll, but that an interval of two months should elapse before this was done, so that he might (as he intended doing) appeal to the Privy Council against the committee's decision. Mr. Simpson concluded by moving the adoption of the committee's recommendation.

Mr. MULVEY seconded the motion, which was carried unanimously.

Mr. SIMPSON further reported that the committee had had before them Mr. Edward Coe, who had been convicted of numerous and various offences, and had undergone terms of imprisonment. They recommended that his name, too, should be struck off the register. Mr. Simpson moved the adoption of this recommendation.

Mr. MULVEY seconded the motion, which was carried *nem. con.*

The rest of the report was similarly adopted, and prosecutions under the seal of the College were ordered to be instituted against different persons for various offences under the Veterinary Surgeons Act.

The Examination Committee.

Mr. MULVEY moved the adoption of this committee's report, which was as follows:—"Your committee, after very careful consideration of the payment of fees to examiners under the four years' system, recommend an altered scale be adopted. Two students to be admitted at a time, and a timekeeper to be appointed for class D (oral). When examining students under the old system, the rate per student to be as before." The committee also recommended that first-class travelling expenses be paid to and fro the place of examination. They further recommended that papier maché models of the eye and brain be obtained, and that the examination in the anatomy (that is class B) be a practical one.

Mr. A. WHEATLEY seconded the motion for the adoption of the report, which was carried unanimously.

The Board of Agriculture and Veterinarians.

The printed report of the special committee relating to the attitude of the Board of Agriculture towards the veterinary profession was then submitted, and copies were directed to be sent to the different veterinary associations, with a view to their distribution among Members of Parliament representing the cities, towns, and districts covered by those societies.

The Board of Agriculture and the Veterinary Profession.

Mr. W. HUNTING, the president, stated that the report (which will be found on p.346) of the special committee which had been appointed to consider the action of the Board of Agriculture in relation to the veterinary profession had been printed, and they had all had time to consider it. He proposed that they should take the report as read, but he should be glad to hear any comments which gentlemen might have to make on the report or to receive any amendments.

Mr. R. C. TRIGGER: Did you (the president) get a telegram I sent you the other day correcting a mis-statement in the last paragraph of the report. Alluding to the "travelling inspector," it is stated, "In the attempted suppression of swine fever he is left entirely to his own devices, not only in tracing out the origin and spread of disease, but in determining whether infected herds should be slaughtered or isolated or partly slaughtered and partly isolated?"

The CHAIRMAN: Yes, I remember the telegram.

Mr. TRIGGER: Well, I find that the travelling inspector has been empowered within the last three weeks or a month to call in the local veterinary and take his advice as to the slaughter of contact animals.

The CHAIRMAN: The paragraph was correct as it stands a month or so ago.

Mr. TRIGGER: Not a month.

The CHAIRMAN: Then six weeks. We are quite aware that the paragraph is not now in accordance with what is done; but the course we have mentioned was pursued for thirteen months. Hence we allude to it.

Mr. TRIGGER: As long as you know the facts I am satisfied.

On the motion of Mr. SIMPSON, seconded by Mr. WRAGG, the report was unanimously adopted.

Mr. MULVEY moved, and Mr. LAWSON seconded, that a copy of the report be sent with a covering letter from the secretary of the College, Mr. Hill.

Professor WILLIAMS said he thought that the covering letter should assume the form of a protest, and be signed by the President of the College as well as the Secretary. He wished the covering letter to convey a strong expression of the opinion of that Council.

The CHAIRMAN: I have taken some little action in these things about the Board of Agriculture, and it occurred to me that if the covering letter was simply signed by the Secretary on behalf of the Council, it would have more weight and influence, perhaps, than it would if my name were appended as well. I do not desire to withhold my name because I am at all nervous in the matter; I think the letter may derive strength from its being only signed officially by the Secretary.

The resolution was adopted unanimously.

The CHAIRMAN suggested that as the different veterinary societies of the kingdom had made strong representations to the Council with regard to the procedure of the Board of Agriculture, it would be well to send each of those associations copies of the report to be forwarded by them to the Members of

Parliament of their respective localities. The only way to move the Board of Agriculture would be to bring pressure to bear by as many Members of Parliament as could be got to voice the protests and wishes of the veterinarians among their constituents.

Mr. LAMBERT said that as President of the National Veterinary Association of Ireland, he would supply each of the Irish members with a copy of the report, and he need hardly say that they might be relied upon in seeing justice done so far as their influence extended.

On the motion of Mr. LAWSON, seconded by Mr. LAMBERT, it was decided that copies of the report should be forwarded to each of the different veterinary societies in Great Britain, and that a sufficient supply should be at the disposal of the seconder for distribution amongst the Irish members.

Dates of the May Examinations.

On the motion of Mr. Mulvey, seconded by Mr. Hunter, it was decided that the written examination should begin in London on Monday, the 13th proximo, and the oral on Tuesday the 14th, the oral in Scotland commencing on Monday, the 20th prox.

Appointment of Auditors.

Mr. WRAGG moved, and Mr. FAULKNER seconded, that Messrs. Warner and Woodger be reappointed auditors for the ensuing year.

This was agreed to.

The scrutiners, too, were elected.

The SECRETARY then read the obituary list.

The Late Mr. Joseph Gamgee.

The CHAIRMAN: Before we adjourn I would suggest that we should send a vote of condolence to the survivors of the late Mr. Joseph Gamgee—say to his daughter in Edinburgh.

Professor W. WILLIAMS moved a resolution expressive of the regret of the Council at the death of Mr. Joseph Gamgee and of condolence with his family in their sad bereavement.

Professor MCCALL seconded the motion, which was carried *nem. con.;* and the Secretary was directed to forward a copy to Miss Gamgee.

The New Register.

Mr. MULVEY directed attention to mistakes which appeared in the new Register laid upon the table. For instance, Professor Williams was described as "deceased."

The SECRETARY blamed the printers for this error and said a letter of apology was due to Professor Williams.

Professor WILLIAMS: No apology is needed. I am very glad to be alive and able to meet you all here.

The CHAIRMAN: Evidently the late Professor Walley has been meant.

Mr. MULVEY thought that the book should not be issued until the mistakes were corrected. By page 93 and 94 of the book he was told what he was unaware of until he saw the register, namely, that their examining board was divided into sections. "Here," added Mr. Mulvey, "it says 'Section for England,' 'Section for Scotland.'"

The CHAIRMAN: Yes, that is a survival.

Professor MCFADYEAN: The book is evidently historical.

The CHAIRMAN: There are 500 mistakes in the book which has had to be rushed out. It has been through various presidents' hands. This year we have had the largest number of alterations to make, and the work of revision proceeded so slowly that I ordered the book to be issued, right or wrong, and regardless of grammar.

Mr. LAWSON : That is the result of rushing a thing.

The CHAIRMAN : There is a Publication Committee and that committee should take the book in hand. One day I noticed that Whitechapel appeared as being situate in Kennington, and a place in Canada was described as being in South America.

A MEMBER : I move that the Publication Committee meet now to revise the work.

Professor MCFADYEAN : Then I beg to resign my position as a member of the committee.

The subject then dropped.

Professor MCCALL moved, and Mr. LAWSON seconded, a vote of thanks to the Chairman. This was carried unanimously, and the meeting then terminated.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 282.)

DR. DELEPINE said : Mr. President and Gentlemen, I rise to propose the most important toast of the evening, that of the veterinary profession, under rather unfortunate circumstances. First of all the compliment you have paid me in asking me to propose this toast, which is the pleasantest to-night. There is no doubt that it is easier for me to speak of all that is admirable in the veterinary profession than if I had to speak of my own profession, in which I see a good many defects. The two professions are getting closer every day and this is the result of circumstances. We discover every day that these links which connect us are more and more important. The highest aim of the medical man is the prevention of disease. Preventive medicine is by far the highest branch, but we find every day that when we want to prevent disease in man we have to prevent it in the lower animal, because a great deal of diseases are communicable from the lower animals to man. Therefore we have to take advantage of the special knowledge of veterinary surgeons in order to help us to prevent contamination of human beings, and it is a matter of absolute necessity that the two professions should be closely united and, as Mr. Wolstenholme has explained, the joint working of the two professions brings about most satisfactory results. There is no doubt that medical scienee itself has been very much adverse to the work of the veterinary surgeon. Mr. Wolstenholme has specially directed considerable attention to the fact that the medical profession has been a great help to the veterinary profession, but if we look and consider a few of the most important diseases that afflict man, you will find that the veterinary profession has added a considerable amount to our knowledge. Dr. Niven has mentioned tuberculosis as one of those diseases in which the veterinary profession has helped the medical profession considerably. You will know that in 1865, Veelmar, in a most important and absolute manner, demonstrated that tuberculosis was communicable from man to man, from man to animals, and from animal to animal. Chauveau is now sharing the highest scientific honours in France. I need not speak of glanders, anthrax, etc., in which we have worked jointly. It seems to me impossible, not to speak of the labour which has been done by your profession otherwise than in terms of the highest admiration, and I feel extremely proud that you should have given me the opportunity of expressing those feelings, though certainly my neighbours have done the same much more worthily and pithily than I can do it. I feel more than I have said.

Mr. HUNTING, President of the Royal College of Veterinary Surgeons, said : Mr. President and Gentlemen, One great advantage I have in replying is that it is purely an impersonal and unofficial reply which I have to make. I cannot

help referring to the relative position of the veterinary and medical professions in the matter of preventive medicine—that we are absolutely indispensable to each other. We have found that in 1865, when this country was groaning under the affliction of the cattle-plague, and when we and we alone directed the nation how to overcome it, we got a temporary thanks for our work, a temporary acknowledgment, and the country got the advantage of our work, and they founded a State Department of Veterinary Medicine. What was the result? Slowly and gradually they have elbowed us out, slowly and gradually they have given our work over to sailors, soldiers, and to clerks and friends of those who have friends in office. The cattle-plague we stamped out, foot-and-mouth disease and pleuro-pneumonia we stamped out, and then the Board of Agriculture say, "This is an easy job, what do we want with these men?" They take on swine fever. Unfortunately they do not know what they are doing. They paid little attention to the veterinary advisers who were left absolutely out in the cold. I say without hesitation the treatment of the veterinary profession by the State is one of the greatest injustices I know of. All I wish is that Mr. Herbert Gardner could have been present, and to have heard these gentlemen speak of us. You in Manchester are favoured altogether. Your medical profession works hand and glove with you, as also your local authority. You have a meat inspector. Here your corporation employs veterinary surgeons. In London they do with as little veterinary assistance as they possibly can, I am sorry to say. The County Council employ a few men, but they have no veterinary advisers. I hope London will think as Manchester thinks. Gentlemen, I thank you.

Mr. Mason, of Leeds: I can only echo the sentiments of the President of the Royal College of Veterinary Surgeons, and thank you most heartily for your hospitality. I endorse every word he says on the topic he has been on, and if we can only press home the arguments which he has given, I am sure that we might do some good to our profession.

Mr. Wm. Woods, of Wigan, said: Mr. President and Gentlemen, I am not very sure whether, in drinking to the success of the veterinary schools, our action of the last few years has contributed very much, or will contribute very much, to the success of the schools. I am afraid we must acknowledge that the addition of a year's study to the college curriculum, and, to my mind, in a far greater degree, the immense leap we have taken in placing the general educational examination of the veterinary student on a level with that of the medical profession, whether that will not considerably militate against the success of some of the schools in the north, at any rate, for the next two or three years, and, speaking of veterinary schools, brings up at once the memory of one of the principals of these schools who has been with us from year to year for many years, viz., Professor Walley, who has been taken from us not very long ago. He was a personal friend of all of us, one whose friendship I valued very highly indeed. A man, perhaps not of the most brilliant parts, but honest, earnest, and painstaking. Nothing seemed too much trouble for him to do; he was an everlasting worker. He deserved success. He added lustre to our profession during his life, and my only hope is that we may gain something from his death. I mean that if by it there comes about a union of those two schools in Edinburgh, that all the profession will be benefited thereby. Of course, I cannot be expected to know anything behind the scenes, or what is going on, but there cannot be as much smoke as there has been without some fire, and it must be that Professor Williams either has been approached, or, at any rate, will be approached, with a view to the amalgamation of those two schools; and I believe that I am voicing the feeling of the profession in making a personal appeal to him not to allow any feeling of resentment to rankle in his breast owing to ill-treatment he may have received in years gone by. That he will, if he can see the practical upshot to

the union, look generously upon it. No one can accuse Professor Williams of want of pluck. A man who dared to defy an endowed school, backed up by the powerful Corporation of Edinburgh, when he thought they ill-treated him, and commence a private school; and I think the practical sympathy of the profession was shown to Professor Williams. I hope these things may make him look more favourably. I will ask you, gentlemen, to drink to the success of the veterinary schools, coupled with it the name of Professor Williams.

Professor WILLIAMS thanked Mr. Woods for the kind manner in which he had associated his name with the veterinary schools, and the members for the enthusiastic manner in which they had drunk it. He endorsed every word which had been spoken by Mr. Hunting, President of the Royal College of Veterinary Surgeons, and thought it important that action should be taken at once to guard the honour of the veterinary profession; but it must be done discreetly, when he felt sure they would obtain what they required. As to the amalgamation of the two schools in Edinburgh, referred to by Mr. Woods, there would be nothing on his part to arrest the movement. He would sacrifice anything to see a great school in Edinburgh. He thanked the members for their kindness.

Mr. W. A. TAYLOR said: Messrs. Vice-President and Gentlemen, I confess to a feeling of great pleasure and honour in having my name associated with the proposition of the toast which has been placed in my hands, and I enter upon the duty with some feelings of trepidation, not because my friendship with the chief officer of this Society has existed for a term exceeding a quarter of a century, but because I have that true sympathy with him, that I feel I cannot say what I would of him in his presence. It seems difficult to extend to a man one's feelings in speech in the presence of himself and others, though they be his well-wishers; nevertheless, when one is called upon to perform a duty, and such a duty as that of President of an Association like ours, it behoves every one of us who knows something of his chief officer, to do his duty to the best of his ability; and I think that in the few words I address to you, I shall be able to claim your leniency in any remarks I may have to offer. The duties of president of an association such as this, sit lightly (and I speak from experience) on no man's shoulders; and however gracefully he may bear the burden of them, the weight is nevertheless there. That any one of us who knows Mr. Dacre, could for a moment doubt his capacity to act in the forthcoming year to the entire satisfaction of every one of the members of this Society, would be an impossibility. He is known amongst us, and not only amongst us as a Society, but throughout the profession, as being a most distinguished practitioner of veterinary medicine and surgery, and I venture to assert that if we one and all emulated, or attempted to emulate, the good example that he has set us, we should be none the worse for following him. I sympathise with him, and those members who are the most punctual in their attendance at the ordinary meetings of our Society. I will also sympathise with him in the position he holds this year. I say those members who are punctual in their attendance, for, gentlemen, you must remember (and I appeal now to those gentlemen whose faces more often grace our festive board than whose presence we have the pleasure of receiving at our business meetings), I ask those gentlemen in particular to remember that the president's duty is to be present at all meetings of the Association during his term of office, and I also venture to assert that it is equally the duty of every member of the Association to be present at those meetings when he can. We may hold meetings, and our President may be here, but if he does not receive that support to which he is entitled, he can only go home at the close of the discussions with a heavy heart. Let us all, I say, follow the bright example of our chief officer, and, during the next 12 months, endeavour by our own individual exertions to assist him in the

duties he has consented to perform for us. I think that every man who has had any experience in the practice of his profession, must have learned something, and we must remember that it falls to the lot of no man, be he the greatest man living, to know everything. Therefore, I urge that one man, though his practice may not have covered many months, may in that short time have come across a case which, possibly, may have puzzled older brains than his. Therefore, although we find that at our meetings when we have down a great gun to expound to us the latest theory of bacteriology, I say that young man, diffident though he may feel, diffident though he may be, he has the power, if he will only exert himself, to add his mite of interest and valuable knowledge for the benefit of older practitioners. Let him not be daunted by the overshadowing presence of men with long titles and great names. They are more to be feared in the abstract than in person, and I feel sure that men who have risen to eminence in the respective departments of medicine and surgery, will be the first to encourage the application, attention, and prosecution of knowledge in the younger members of the profession. I ask you to rally round the chief officer of this Society, and make his duties less onerous and more pleasant during the ensuing 12 months. Gentlemen, I ask you to drink to the health of the President of this Society, Mr. Dacre.

Mr. DACRE said: I am pleased to find that my friend Mr. Taylor did not pour out upon me any great amount of eulogy, but that he referred to this society of which I am the president, and whose good I have sincerely at heart. I have been a member of the society for a considerable time and I do not think anybody can accuse me of doing anything that would be prejudicial to its welfare. I have been now three times president and for some years secretary, so that I have done possibly my share of the work. I should like to see this society in a more flourishing condition than it is, and in my address this evening I intimated the wish to see amongst us the younger practitioners, who are members of our society. If that can be achieved I think that this society will begin a series of good work; if we bring forward subjects at our quarterly meetings that will interest the members, subjects that when they see our circular they will say "Why, I had a case of this sort and I shall be glad to go down and hear what this man with 30 years' experience has to say about the disease, and possibly I may hear something to be of material service." Now although, as I have said before to-night, scientific subjects are good, they are not the most beneficial. The subjects should be of such a practical nature that the younger members could consult with the older members when they were in a fix in the various cases they do meet and must meet when they first commence practice. I think if the work of the society could be directed into that channel, that would be one of the greatest benefits the society could confer upon the profession generally, and I hope at some future time—even in this year of my office I am living in hopes of doing something towards that end, and if I can succeed I shall be satisfied that I have done my duty to the society as your principal officer. I thank you, and Mr. Taylor, my very old friend, for the kind way in which he has spoken of me, I hope this will be the inauguration of better times for the association.

Mr. J. H. CARTER said: Mr. President and Gentlemen, I have great pleasure in proposing the next toast, which I think is one of the most important on the list, and also one which I am sure the members of this association will greet with enthusiasm. We are always pleased to see a goodly array of visitors around our festive board and at all our quarterly meetings. I am especially pleased to see that we have amongst us a number of medical gentlemen, and from the remarks which have been made, it must be patent to us the necessity for a closer alliance with the medical profession. In fact, when we come to consider the great advance which has been made in recent years in the study of human and animal pathology, I think it behoves us to closely ally ourselves

with the medical profession and work hand in hand. At all times, whether at quarterly meetings or annual meetings, I am sure we extend the welcome hand to all visitors. I call upon you, gentlemen, to drink the health of the visitors, coupling with it the names of Mr. Cook and Mr. Butterworth.

Mr. Cook said: Mr. Chairman and Gentlemen, I thank you for coupling my name with the toast of the visitors. I am not altogether a stranger at those meetings; some years ago I had the pleasure of attending them. I was pleased to see a fortnight to-night, at our meeting in Yorkshire, your representative, Mr. Faulkner, as also Professor Williams. I think meetings of this kind are not really patronised well by visitors; I think there ought to be more combination in connection with societies of this kind. I thank you very much for coupling my name with the toast.

Mr. Butterworth said: Mr. President and Gentlemen, I am sure I hardly know why my name should have been coupled with the toast, because I am altogether outside the pale. I am in the law. I certainly have to deal with both branches, viz:—Medical and the Veterinary Professions. At the present time I am busily engaged in the mystery of tuberculosis, and I can assure you that I have gained more respect for, and I feel more deeply indebted to, the veterinary profession than I ever did in my life. I thank you very heartily indeed for your hospitality to-night. I have been very pleased to be amongst you and I trust I may have the pleasure of being with you on some future occasion.

Mr. Darwell said he had great pleasure in proposing the toast of the ladies, which was responded to by Mr. Chorlton (Hon. Secretary.)

LINCOLNSHIRE VETERINARY MEDICAL SOCIETY.

(*Continued from page* 302.)

In what I have said I do not profess to have done more than glanced at so large a subject, but having, perhaps, tried your patience by dwelling so long on a theory with which most of you disagree, I will now go on to the more practical subject of the treatment to be deduced from it. No disease in existence is subject to a greater variety of treatment, each system according to its exponents being attended with greater success than any other, the sedative, the stimulant, the evacuant purgative and the nerve tonic methods, each have their enthusiastic advocates, the sedative being, perhaps, at present, the most popular. I have treated and assisted to heal the disease by various methods, with a total of recoveries of 5 in 13 cases in the North of England, 4 in 11 in Wales, and 18 in 93 cases in my present practice, where we have the disease in its severest possible form. After reading the articles published four or five years ago on the virtues of chloral and the remarkable percentage of recoveries resulting from its use, in some reports nearly 100, I thought, now at any rate I shall be able to establish a reputation for curing a disease which myself and my predecessors in the practice had found almost intractable. But alas! for the vanity of human hopes, I found that whatever might happen in the bracing air of the North, in the Fens where the state of agriculture has a generally sedative influence, my patients when down refused to respond favourably to this method of treatment, and after administering chloral to 6 cases with fatal results, in 5 of them I came to the conclusion that with me the system was a failure.

The basis of the treatment usually adopted is stimulation of the system generally, and the production of purgation. Now, in dealing with the affection I have retained the name of parturient apoplexy because it is one most commonly used, but the condition which exists in the earlier stages, at any rate, is a gradually increasing suspension of the bodily functions, commencing with

the voluntary and non-essential and progressing until, if not checked, it embraces the vital centres. Now, holding as I do that the root of the malady is a chemical poison in the system, and as the majority of our stimulants partake more or less of the same character, there is danger, in administering preparations of alcoholic ammonia, of increasing the morbid material in the system, when the temporary stimuiating effect has passed off. Presuming the kidneys to be organs to which we must look for the relief of the morbid condition present in the disease, I have for the last three years confined my treatment to the administration of diuretics with large quantities of fluids, constantly using the catheter, and allowing the patient plenty of fresh air, of course, attending carefully to the usual routine as to position, etc., and combating any tendency to tympanitis that may be present by large doses of sulphite of soda. No purgative medicine is given under any circumstances, as it is quite impossible for any drug of this description to establish its action, and the mechanical effect of dissolving a pound or two of salts in the animal fluids, has reduced the vitality of many a case with a temperature already several degrees below the normal to a point which puts it beyond the hope of recovery. I consider that much harm has been done by the use of what was so popular a few years ago, the wet pack. By means of this agent, a large amount of fluid could be obtained from the animal's system, but as this fluid was little more than clear water, it had no effect on the cause of the disease, and had the great disadvantage of diminishing the action of the kidneys by which it is excreted. The skin should only be sufficiently clothed to keep the surface of the body at its normal temperature. I have found oil of juniper administered in half-ounce doses at intervals of a few hours, the best agent to produce a rapid diuretic action and having at the same time no tainting effect on the carcase should the butcher have to be called in. It is of the greatest importance that the bladder should be kept empty, as an empty bladder is a great stimulus to urinary secretion. When the animal is not quite comatose the mere pressure of the hand in the rectum will cause irritation, but where it is not possible to employ the bladder by this method the catheter must be used, and in cases occurring some miles from home, or when I am not sure when I shall be able to see them again, I insert a flexible catheter into the bladder and leave it attached to animal's tail; in restless cases this is of course soon displaced, but in cases where the coma is complete I have known it to remain *in situ* for more than 24 hours, with an almost constant dropping of urine ; in any case no possible harm can result from it.

In reference to this I am of opinion that in those cases which die suddenly without apparent cause, death is most frequently due to a ruptured bladder than to the ruptured blood-vessel in the brain which we give as the explanation to their owners, but are unable to find on *post-mortem*, at any rate I have seen two cases in old cows where this happened. It is of the greatest importance when the kidneys are acting freely to administer plenty of fluids, and when the cases are well developed it is much less risky and more expeditious to use the probang than to trust to the patient's powers of swallowing. No benefit is derived from continually drawing the teats to excite the secretion of milk, as, until the patient is in a fair way to recovery, the less secretion of milk there is the better, and I am decidedly of opinion that the cessation of this secretion, so far from being the cause of the disease, is only one of its most prominent symptoms. There will always be points about each particular case which require the special attention of the practitioner, and a good attendant, who can be relied on to follow directions carefully and use common sense on points which may arise during the absence of the veterinary surgeon, is an invaluable factor in bringing a case to a successful termination. In a country practice where clients will have something tangible for their money, one is bound in attending a case of this description, for, perhaps, two or three days,

to furnish material for the Christmas account in the shape of various other inward and outward applications, but always take care when keeping an eye to the commercial side of practice, not to administer or apply anything from which the patient can derive any harm or the drug merchant any profit.

I do not claim either originality or superiority for my system of treatment, I can only say that it has had the advantage with me of raising my percentage of recoveries from 10 to 30 per cent., and this in a district where the disease is looked upon as next door to incurable. I am firmly of opinion that if, during the period over which veterinary literature extends, no drug had been administered to a case of parturient apoplexy, there would have been a much greater number of recoveries and the disease would have been much less dreaded than it is at present. We naturally look to the pharmacopœia to remedy the ills of our patients, but it behoves us as scientific practitioners in this age of general enlightenment, to treat our cases rationally, and to strive to do all we can to add to the knowledge we already possess, by the exercise of those powers of observation and deduction, without which we become mere machines for carrying out the ideas of others, and leave our profession none the better for having included us amongst its members.

I thank you for the attention with which you have listened to me, and feel that though I must have imposed on your patience, I have at any rate furnished material for discussion. In a company of gentlemen such as we have here today, all having a practical acquaintance with the subject of the paper, we cannot fail each of us to leave this meeting enriched by that exchange of ideas and opinions which was the chief object that led to the formation of societies such as our own.

Discussion.

Captain RUSSELL asked if it was Mr. Robinson's theory that the disease was due to chemical poisoning from the changing of the tissues into milk, how he accounted for the disease appearing six weeks before a cow was due to calve?

Mr. ROBINSON said he should not consider a case of that sort to be true parturient apoplexy, but a variety of indigestion.

Captain RUSSELL said that in the case to which he referred there was every symptom of it, and the animal remained paralysed, she could not get up, but at the end of the six weeks she calved, got up and licked her offspring, and did well afterwards. He could not follow Mr. Robinson's pathology; he had studied various treatises which had been written on parturient apoplexy, and had had the honour of being on the committee formed by the National Association to make enquiries into it. His opinion was that the more they considered the subject the less they found they knew about it. He himself received a severe check; he was called to a cow with all the symptoms of dropping after calving. She was not in a state of coma, but was just sensible and had every symptom they wanted, even to the limp tail. He was told that she had calved ten weeks; these sort of cases rather upset the theories that had been put before them. He did not wish to argue with Mr. Robinson as to the pathology of the disease, but he really failed to follow him in thinking it was due to the change of the animal tissues into milk. He had tried the chloral treatment when it first came into practice, but had never saved a cow by it; if he gave chloral to a cow she became comatose and remained so till she died. He thought the essayist was to be congratulated on having taken up this subject, as it was one which would bear any amount of discussion and ought to be fully considered.

Mr. FREER said he had been in practice something like 30 years, and he had come to the conclusion that the disease was due to some kind of poisoning, brought about during the period of parturition, and that indigestion had a great deal to do with it. In 1893, he never had a case, because in that year

a cow had to walk about and work hard to get a living; as a rule the cows when they came down calving in his district, were very fresh. His father's treatment, with which he had been successful, was turpentine. He was no believer in the chloral treatment, as it had never been a success with him. He, however, fully believed that milk fever was a preventible disease, by keeping the animal short of food for a few days before calving, and avoiding stimulating food, such as linseed and cotton cakes, substituting mashes, and giving the animal a powerful dose of purgative medicine. He had seen great benefit follow this line of treatment, and had felt that in many cases an attack of parturient apoplexy had been prevented.

Mr. GOOCH said his father had been in practice about 55 years and was noted for his percentage of recoveries in this disease; the first thing he did was to bleed and then pour down a pint of turpentine in a quart of linseed oil, and nothing else was done. He, himself, had tried this treatment at Stamford, but it was not so successful as in Norfolk; he believed, however, that if turpentine could be got into the digestive tract without passing into the lungs it would be the best remedy that could be applied, and this could be done with the aid of the probang. He quite coincided with the essayist as to the use of the catheter, as it greatly relieved the patient; he also agreed with previous speakers as to the chloral treatment, as he thought when a cow was comatose it simply aided the morbid process. He had, however, given it in violent cases with some degree of success.

Mr. JAMES SMITH said he should like to thank the secretary for coming forward and giving them such an interesting paper. He thought Mr. Robinson was on the right track and that the disease was entirely due to an alteration of the blood pressure. It was a fact that cows which went down before calving presented every symptom of milk fever, and then got up and calved and went on all right. He did not think that the more sudden the effect produced the more likelihood of recovery, as in his experience, the sooner a cow went down after calving, the less prospect there was of her getting up again. He agreed with Mr. Freer that it was a preventible disease and he thought there was no disease more easily prevented. He had charge of the best shorthorn herds in his district and he would guarantee they did not go down with milk fever. He took them off grass, fed them carefully, and gave a mild dose of purgative medicine and let them calve on an empty stomach, and gave them a dose of medicine as soon as they had calved. If this system was carried out they could certainly prevent it. Feeding had much to do with it, as last year he had no cases, whilst the year before he had only two. The chief objection to the essayist's theory was that cows had milk fever before calving; he remembered a case in which a cow had an attack three weeks before she was due to calve. She recovered and, calving at the proper time, went on all right.

Mr. MACKINDER said he had to give a lecture to-night which dealt with the subject of the paper. He held a different theory altogether from that of the essayist; his theory was that it was entirely a nervous disease. Let them look at the symptoms, there was no doubt that the sciatic nerve was affected, and he did not think it could be from blood poisoning. He thought it due to nervous paralysis from two distinct shocks. A cow calved easily and had an udder full of milk, these glands had not been in use for six or seven weeks, and they were suddenly called upon to secrete large quantities of fluid. He thought the principal cause was the shock of the act of parturition, followed by the removal of a large quantity of milk from the udder, thus giving two distinct shocks in a very short space of time. About the time of parturition, also, there was great danger of an attack of indigestion, as the animal would not chew her cud, and at the same time had often a ravenous appetite. He always advised that the milk be taken away gradually. In a fatal case of the

disease the third stomach was always found very hard indeed, and he thought that if they gave plenty of fluids the cow would be less likely to go down. He had seen a cow which went down in a grass field and could not stir; he gave the cow a dose of chlorodyne, and to his surprise she got up and walked half-a-mile, and then went down and passed through all the stages of parturient apoplexy. He was an advocate for giving plenty of treacle, as it would keep the animal from blowing up.

The CHAIRMAN said, personally, he was in favour of much that the essayist had said. He thought they were very much in the dark as to what parturient apoplexy really was.

Mr. KIDD said he agreed with Mr. Robinson as to the cause. He had had a lengthened experience of the disease, and had held different theories, but he had now no doubt that the mammary gland was the seat of origin of the disease. With respect to the chloral treatment, he had been fairly successful with it, but considered that it yielded better results alone than in combination with potassium bromide. He thought that giving purgative medicine had something to do with the non-success of previous speakers, as there was no doubt that to give chloral after a dose of Epsom salts had been administered was to induce a fatal result.

Mr. ROBINSON, in replying, said that in bringing forward this paper his object had been to furnish a subject for discussion, and he was very much obliged to them for the lenient way in which they had dealt with him. In reference to those cases which went down several weeks before calving, he was of opinion that they were not parturient apoplexy at all, as he had seen bullocks with symptoms identical with those of milk fever, arising from acute indigestion. There was no doubt that there was a considerable relation between indigestion and parturient apoplexy; but to say that the disease was pure indigestion was a very feeble explanation of the facts known in connection with it. As men posing to be scientific, they must hold some reasonable theory to account for their method of treatment, as a man who poured drugs down an animal's throat without having an explanation satisfactory to himself of their method of action, occupied an absurd position. He had not said that the sooner a cow had the disease after calving the more likely she was to recover; but what he had said, or meant to have said, was that a case in which the symptoms were developed rapidly, and coma set in without much preliminary excitement, was more likely to recover than one which was rolling about for some hours, getting up and down before becoming comatose, particularly if tympanitis were present, as, in his experience, the last class of cases were invariably fatal.

On the proposition of Mr. GOOCH, seconded by Mr. WESTON, a cordial vote of thanks was passed to the essayist for his paper, and the meeting concluded with a hearty vote of thanks to Mr. Rudkin for his conduct in the chair.

JOHN A. ROBINSON, *Hon. Secretary.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from page* 296.)

PROFESSOR MACQUEEN: I have no objection personally to a grant being made to this Institute. That is not the object of my opposition. I object to the re-opening of this question on constitutional grounds, and I am surprised that the president of the Royal College of Veterinary Surgeons should be the first to break through the constitution of our society.

Mr. HUNTING: Pardon me, but before you make an observation of that sort, it is as well to have some facts to go upon. I have broken through no rules. I object entirely to any assertions of the kind.

Professor MACQUEEN: If you will allow me to continue I will prove what I say. Mr. Hunting stated that the recommendation was carried by a large majority—

Mr. HUNTING: I said it was carried by a larger number than was present at the Council meeting which rejected it.

Professor MACQUEEN: Well, larger if you will.

Mr. HUNTING: It makes all the difference.

Professor MACQUEEN: On that point I wish to make a remark. I do not deny that there was a larger number for the grant at the Society's meeting than there was against it at the Council meeting. But you must remember that the very same meeting which recommended a grant to the British Institute of Preventive Medicine also recommended the Council to vote a certain sum towards our Jubilee Memorial Fund. What is the meaning of Mr. Hunting's motion? If you allow this question of a grant to the British Institute of Preventive Medicine to be re-opened to-night, that means you are prepared to allow the work of your Council to be reviewed, and if you are not satisfied with the act of your Council in regard to this Institute, then you ought to be dissatisfied with the action of the Council in connection with the Jubilee Memorial Fund. Mr. Hunting uses the sophistical argument that we shall not bind ourselves to pay the money until it is in hand. Well, if we are not to pay the money until the treasnrer has sufficient funds, why not re-open the question when this time arrives instead of now. Let us wait until that time comes. That, however, is not my chief objection to this motion. My chief point against it is that if we entertain the motion at all our doing so can only be translated as a vote of want of confidence in—if you like, as a reflection upon—the action of our council; and that is a thing which I do not think the Society should tolerate for a moment. We deputed our Council to deal with this matter. They have dealt with it and decided not to make the grant for some reason the exact nature of which I do not know. But the fact remains that the sum has not been granted, and until the proper time arrives I do not think the question should be re-opened. I quite agree with Mr. Hunting that the Institute is a praiseworthy object to which this Society should contribute. I may say that I voted in favour of the recommendation of a grant on the part of the Council, and I shall be prepared to do so again at the proper time. Still, I do object to this question being re-opened at this present moment, and I do so on the very ground urged by Mr. Hunting himself: that there is no intention to appropriate the money until the funds of the Society justify its appropriation to the object in view.

Mr. HUNTING: It may save the time of the meeting if I say that, after the remarks of Professor Macqueen, I am prepared to withdraw my motion. I will withdraw it for this reason: Professor Macqueen has expressed his approval of the Institute, and asks us to wait. I have no objection to wait. May I also add that I wish to utterly repudiate any reflection upon the Council. It was the last thing in my mind.

The Veterinary Department of the Board of Agriculture Recent Appointments.

Mr. H. EDGAR: A notice stands on the agenda paper with my name attached, which requires me to bring forward the subject of the appointment of a *layman* as the head of the Veterinary Department of the Board of Agriculture. Taking for granted that the rumours which have appeared in *The Veterinary Record* are an established fact, it behoves us to seriously consider the position of affairs, and, if possible, decide what action is best to get such an apparent injustice corrected.

In the first place, does it not appear on the surface to be manifestly unfair to Messrs. Cope and Duguid that a layman, whatever his qualifications and

abilities may be—and we are not here concerned with personalities, as it is not the person put in that position that we attack, but the principle actuating such steps—should be placed over their heads, when they have faithfully and honourably in past times fulfilled the arduous duties which devolved upon them, and received as they did words of commendation from their late Director, Professor Brown. I take it that in any case of difficulty and doubt which may come before the Assistant-Inspector or Chief Inspector, it is to the Principal of the Department that the case ought to be remitted for a final discussion. Are these two professional gentlemen who have made the science of disease a life-long study to submit to a layman's opinion and decision? If not, they have the responsibility, and he the honour.

Secondly, is it not an insult to the profession, and perhaps the greatest that could be offered, implying as it does that our profession is not capable of directing a veterinary department, and that veterinary surgeons and inspectors are to submit to a final decision from a layman in cases of disease, which they are compelled to send to the Board of Agriculture in order that their expressed opinion may be confirmed or rejected?

In the third place it is true from an economical point of view, by this arrangement some paltry £300 a year is saved, at least this appears so from the figures quoted in last week's *Veterinary Record*. But what is this paltry saving compared with thousands of pounds that are involved in the proper judicial directing of such a department, and in the regulation and importation of cattle, sheep and pigs, when there is a serious outbreak of disease?

Fourthly, is is not absolutely essential that the fullest confidence should be placed in this department both by the veterinary profession, stockowners, and the public? It needs no words from me to point out that the course adopted by the Board will not increase, but greatly diminish such confidence, for proof of this I refer to the letters and extracts which have appeared in *The Veterinary Record*, *The Standard*, *Live Stock Journal*, *Manchester Courier*, and *Yorkshire Post*.

Fifthly, it was a generally admitted fact that when there were three veterinary surgeons at the head of this department they were always busy, and had their hands full in deciding the cases submitted to them. What will be the result now if two have the work and responsibilities of three?

Can a man give a better opinion when he is hurried to get through the amount of work that lies before him, and when his mind and body become wearied and overwrought? The answer must be, no. Then what must be the result? A delay in deciding cases, the spread of disease, loss to stockowners, and increase of rates to the taxpayers. Is this efficiency? Is this true economy? Is this a wise, long-sighted policy?

Gentlemen, the thin edge of the wedge was inserted when laymen of varying capabilities were appointed as travelling inspectors, and now the wedge is apparently driven right home. What can we do? Two courses are open. We can either remain silent and inactive now, and for ever after hold our tongue, or leave not one stone unturned until the profession, stockowners, and public are satisfied that the present arrangement is the best. I beg to propose—"That this society communicate with the Royal College of Veterinary Surgeons, and with every veterinary medical society in the United Kingdom, asking for their opinions and sanction for a deputation representing the whole of the said societies, and the profession generally, to wait upon the Minister of the Board of Agriculture, or preferably the Prime Minister, and also that members of Parliament be invited to bring the matter before their constituencies, especially stockowners, and, if necessary, call the attention of the House of Commons to the subject." It is for us as veterinary surgeons to lead the way and show a united front; then stockowners and the public will follow. Let us do what is right, just, and wise. Personally, I am

prepared to bring the matter before the member representing the division in which I reside.

Mr. HURNDALL seconded the motion.

Mr. SAMSON said that it was an insult to the veterinary profession to appoint a layman as chief of the veterinary department of the Board of Agriculture. But, if he remembered rightly, even when Professor Brown, C.B., was at the head of the department, they had laymen appointed as travelling inspectors. If, however, that gentleman had spoken out for the profession he could, no doubt, have stopped that abuse. He (Mr. Samson) would like to know from the two veterinarians who were now in charge of the department in a secondary way, whether they were disposed to defend the just claims of the profession and see if the existing arrangement as to the appointment of veterinary inspectors could not be altered. When Professor Brown was at the head of the department he did not trouble his head about his brethren in the profession, although, if he liked, he could have exercised the whole and sole control over the department. Some of the laymen who had been appointed to do veterinary work were afraid of dirtying their shoes, to say nothing of their hands. If £300 had been saved in the re-organisation of the department, more than that sum had been lavished upon travelling inspectors whose qualification seemed to be that they were military men, and not veterinarians at all. One of the travelling inspectors bore the same name as the head of the department. He should like to know whether the gentleman was any relation to the principal.

Mr. H. EDGAR said that when travelling inspectors were about to be appointed, he wrote to Professor Brown and was informed in reply that the position was not one for a veterinary surgeon to take up.

Mr. ROWE said that he received a private intimation that a number of travelling inspectors were to be appointed, and as he had some time to dispose of he sought one of the appointments. He was courteously told in reply that it was not the intention of the Board of Agriculture to appoint veterinary surgeons as travelling inspectors, because in that case it was likely that the inspectors and the local veterinary surgeons might not agree. Hence it was thought desirable that an ignoramus should be appointed as a travelling inspector in preference to an experienced veterinary surgeon.

Mr. HUNTING said there might be a strong argument in favour of the appointment of lay inspectors, but the question was, what work were they employed to do. The thin end of the wedge was got in by setting them first to see that cattle trucks were disinfected and to perform similar easy duties. They performed, in fact, the work of policemen. (Mr. Samson: But they were better paid.) Yes, and they were more efficient and reliable men for the job. He had no objection to the British Government paying men well for the discharge of responsible duties. Subsequently there was an attack on pleuro-pneumonia among cattle, and then they found—according to the Government's reports—that this attack was left to be met by travelling inspectors with the assistance of local veterinary surgeons. That was putting the veterinary profession in the second place a little. Well, the department was so pleased with the lay inspectors' action in this matter, so delighted that they had done things which occurred to veterinarians years before, that they said to themselves "by Jove! we can do without the veterinary profession altogether." And when, subsequently, they had swine-fever to tackle they made—as everybody knows—a really good job of that. Then it was a case of the travelling inspector without the aid of the local veterinary surgeon at all. The lay inspector cut out the veterinary practitioner altogether. What the profession should go for was to support the local veterinary surgeons who, at the instance of the local authority, were able to stamp out contagious disease without the aid of lay travelling inspectors. If they were left to do

so, then the thirty-two or thirty-three military men who had been appointed travelling inspectors would be in the enjoyment of perfect sinecures.

Mr. HURNDALL said he must thank Mr. Hunting for the clever article he read in the previous week's *Veterinary Record* on "How to deal with Tuberculosis." He never enjoyed his breakfast so much for the last six months as he did after reading that article on the preceding Saturday morning. He felt that his friend (Mr. Hunting) was coming round to view matters in the light in which he (Mr. Hurndall) had regarded them for a long time, namely, that if they tamely submitted to the methods in vogue by the Veterinary Department for stamping out disease, they would render their position nugatory, and presently there would be nothing to do. He had suggested this before and once mentioned to Professor Axe that it was quite time veterinary surgeons began to look after their own interests. The Professor replied "You will see that we shall get properly recognised." Well, they saw how they had been recognised. After reading Mr. Hunting's article he congratulated the profession that the editor of the *Veterinary Record* had at length taken up the cudgels in behalf of the profession. It was necessary that veterinary surgeons should support each other. Let the local veterinary surgeon have his fair share of work, and let no one interfere with him. It was requisite that they should all stand by each other. Unless they did so, their profession, which was not worth much at the best of times, would soon be worth less, and would be reduced to pitiable straits. He dared say that they would regard him as a *rara avis* when he declared that up to the present time he had been a consistent Radical in Imperial politics. As a Radical he was bound to say that he had been very much disgusted with the way in which the Government had attacked the interests of the veterinary profession. Further, he regarded Mr. Herbert Gardner, the President of the Board of Agriculture, as one of the greatest offenders that had ever occupied that position. Hence he believed that to appeal to that gentleman for justice, for any redress of their grievances, or remedial measures, would be a mere waste of valuable time. He suggested that they should go to the head of the Government. Lord Rosebery was a sporting man, let them appeal to him. Let them give Mr. Herbert Gardner the cold shoulder. They had nothing to lose by adopting that course. Mr. Gardner had been approached before on matters which concerned the veterinary profession and he had absolutely ignored them. On that ground he suggested that they should not try him any more. From Lord Rosebery they might get justice. At all events the Premier, if they sought his intervention, might bring pressure to bear upon the gentleman at the head of the Board of Agriculture.

The CHAIRMAN: This is the most important subject, in fact, one of the most important subjects that has been before the veterinary profession for a number of years. I am very anxious that we should discuss it very fully and arrive at a wise decision. Mr. Hurndall suggests that we seek an interview with the Prime Minister. It seems to me that our position would be strengthened by acting in conjunction with the Council of the Royal College of Veterinary Surgeons in this matter. We should then have a better *locus standi* in appearing before any member of the Government.

Mr. EDGAR amended his motion by including in it the Royal College of Veterinary Surgeons as it appears above.

Mr. HURNDALL said that the deputation should be representative of the entire profession, and embrace the president and secretaries of the different veterinary medical societies as well as representatives of the Royal College.

The CHAIRMAN: When is the next meeting of Council of the Royal College of Veterinary Surgeons?

Mr. HUNTING: I think there will be a special meeting of the Council in March.

The CHAIRMAN: About a month from now? Why I ask is, that it is of very great importance that the deputation should go at once.

Mr. HURNDALL: Is the matter not important enough to justify a special meeting of the Council?

Mr. HUNTING: If more than one society applies to us we will call a special meeting forthwith.

Professor MACQUEEN said that he thought they should consider this question on a little larger basis. He was not in agreement with Mr. Hurndall that they should approach the Prime Minister, because he did not think Lord Rosebery would consent to receive any deputation of the kind. He thought that the proper method of procedure was to approach the Minister of Agriculture, notwithstanding his peculiar views concerning them. They must also obtain, if possible, the influence and assistance of Members of Parliament. In approaching the provincial veterinary societies that, he thought, should be one of their chief objects. They must ask the provincial societies to invoke the aid in this matter of their local Members of Parliament. The dissatisfaction felt at the treatment of members of the veterinary profession by the Board of Agriculture was quite general throughout the country. He thought it was unnecessary to see the Council of the College on this subject by deputation, seeing that Mr. Hunting, the President of the College, was present, and would doubtless undertake to represent their views to the Council.

The resolution was then put and carried uuanimously.

The CHAIRMAN: I think we had better appoint a small committee to draw up a form of memorial and do the other incidental work. I mean, that we cannot put too much upon our secretary's shoulders.

The following gentlemen were then constituted the committee for the purpose named:—Messrs. Edgar, M. Clarke, Rowe, Hurndall, Singleton, Prof. Macqueen, and the President and Secretary of the Society *ex officio*.

(*To be continued.*)

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

Annual Meeting.

THE Annual Meeting of the Association was held on Friday, the 15th of February, at the Hotel Metropole, Newcastle-on-Tyne. The President, Mr. G. M. Mitchell, occupied the chair, and there were also present Messrs. J. R. Crone, W. Hunter, J. W. Rider, D. McGregor, W. Grieve, C. Stephenson, J. B. Nisbet, H. Hunter, A. Hunter, Vet.-Major Durrant, A. A. Stevens, J. E. Peele, A. Chivas, T. R. Jarvie, C. Hunting, A. Dalgleish, G. Elphick, J. Gofton, and the secretary, F. T. Finney. Visitors—J. Malcolm, Birmingham; Councillors—J. A. Batey, A. P. Anderson and R. L. Dunford, Dr. H. E. Armstrong, H. H. Roberts, G. W. Lee, and F. C. Robson.

The SECRETARY, Mr. Fred. T. Finney, submitted a financial statement, which, on the motion of Mr. ELPHICK, seconded by Mr. J. B. NISBET, was adopted.

The SECRETARY then read letters from the following who wrote expressing inability to be present:—Mayor and Sheriff of Newcastle, Professors McFadyean, Williams, McCall, J. W. T. Moore, Dr. G. R. Murray, and W. Dotchin.

Votes of Condolence.

The PRESIDENT said at this stage of the proceedings he thought it would be fitting that they should express their regret at the death of Professor Walley. He was sure everyone present would remember the great interest Professor Walley had taken in their Association. He had been frequently

present there, and had aided them in their discussions. As a student under Professor Walley he (the President) could testify to the fatherly interest he took in the students. With their permission he would propose that the Secretary be instructed to send a letter of condolence to Mrs. Walley and the family of the late Professor, and that they record in their minutes their deep sense of the loss the profession had suffered by Professor Walley's death.

Mr. H. HUNTER seconded the resolution. He and the late professor had been fellow students and they had kept up a correspondence to the time of his death. He was a good student and a good teacher, and no man had done more towards advancing the profession. He was always willing, not only to do the best he could for the students, but also to assist his fellow practitioners. He (Mr. Hunter) endorsed everything the President had said, and was quite sure all present would do the same.

Mr. CLEMENT STEPHENSON said Professor Walley had been a very old friend of his. He had always found him a first-class man in every respect. It had struck him (Mr. Stephenson), as soon as he heard this mentioned, that they ought also to pass a vote of condolence on the death of the late Mr. Henry Wilkinson, of this city. A more brilliant member of the profession had never existed, and those of them who could look back to the period between 1860 and 1875 would remember him as one of the finest men they had ever had in their profession. He was naturally clever, and that was backed up by a fine education. He was a born veterinary surgeon, and was gentle in everything he did. By his death the profession had suffered a very great loss indeed. He (Mr. Stephenson) moved that a letter of condolence be sent to the family of the late Mr. Wilkinson.

Mr. C. HUNTING had great pleasure in seconding the proposition. The late Mr. Wilkinson had been a very old friend of his indeed. He could endorse what Mr. Stephenson had said, especially as to Mr. Wilkinson's brilliant abilities. He was a highly-educated man, and a close observer of all the diseases to which domesticated animals were subject. He (Mr. Hunting) had never in his experience met Mr. Wilkinson's equal. Mr. Wilkinson seemed to have a power of intuitively diagnosing his cases such as very few men indeed were possessed of. His disposition was of the kindliest. During all the years that he (Mr. Hunting) knew him—from 1852 to the time of his death—he never heard that Mr. Wilkinson had ever been known to do a mean act or an underhand trick.

The PRESIDENT endorsed what the previous speakers had said with regard to Mr. Wilkinson, whom he had met on several occasions, and whom he had always found to be kindly and courteous, and willing to assist with his advice.

It was unanimously agreed that letters of condolence be sent to Mrs. Walley and to Mrs. Wilkinson.

Mr. HUNTING referred to the death of Professor Gamgee. As a scientist no man in the profession had approached Professor Gamgee. He had few equals in Europe. In 1865 he was the means of lifting a cloud which had crept over the veterinarians of England. They had then imported into this country a disease which had not been seen here for 200 years. None of them knew anything about it. But Professor Gamgee, who had studied in Italy where it was almost annually seen, knew it, and declared it to be the cattle plague. He proposed stamping it out by isolation and slaughter. They designated him a pole-axe doctor and ridiculed his advice. But, as they all knew, it was afterwards acted upon, and the disease at once ceased. Having spoken of Professor Gamgee's works, foremost among which was his book on the cattle plague, Mr. Hunting concluded by proposing that a letter of condolence be sent to the family of the late Professor.

Mr. D. MCGREGOR seconded the proposition. As a student of the late

Professor he could well speak of his capabilities, which were in every respect as had been stated. He remembered Dr. Smart, who advised the Government to go against the advice of Professor Gamgee. The medical profession undertook to cure the disease, but they had heard how costly had been their futile experiments, and how ultimately they had been obliged to accept the Professor's advice, and compensate the farmers. The poor owners who had lost cattle before that got nothing. He (Mr. McGregor) had never heard such a lecturer as Professor Gamgee in all departments of science.

The resolution was carried unanimously.

Mr. GEORGE M. MITCHELL, M.R.C.V.S., then delivered his Presidential Address. He said:

Gentlemen,—I rise to thank you most heartily for the compliment which you paid me at the last meeting of this Association in unanimously electing me your President for the ensuing year. I assure you I appreciate the honour which you have conferred, but doubt my ability to perform with the same efficiency, the duties which in past years have been so ably carried out by my predecessors. As far as I am able I shall endeavour to make the coming year as successful as any that has gone before, and relying on the sympathy and support of the members, trust to advance the welfare of this Association, the interests of which we all have at heart.

Seeing we have so many great and shining lights in our profession to guide and illumine us by their brilliancy, I must confess it is difficult to touch on any subject that has not already been dealt with and on which they have not expatiated, therefore, as I have nothing new to put before you, I crave your indulgence to listen for a short time while I speak about a few things that, though somewhat hackneyed, are still of interest to us.

A topic much talked about in veterinary circles at present is the proposed establishment of a veterinary college in Ireland. It is a subject of considerable importance to the profession; and as the promoters of this rival teaching-school propose to affiliate it to the Royal College of Veterinary Surgeons, one might be inclined to say that, as a body of practitioners, we had no reason to complain. However, when we consider that the Government have promised £15,000 towards this Institution (money drawn mainly from the taxpayers of this country), we have just grounds for complaint seeing respective Governments have hitherto declined to grant State aid to the existing teaching schools. This action is not in accordance with our sense of British fair play, and I fear we have not seen the end of this question.

As regards our Council, whilst agreeing with a great deal of the work it has accomplished in past years, I think that the step it has taken in conjunction with the Farriers' Company and the Royal Agricultural Society, is, to say the least of it, unfortunate. There is no veterinary surgeon who does not wish to see the art of horse-shoeing improved, for we have all witnessed the evil effects to horses' feet occasioned by careless and incompetent shoeing-smiths. However, I question if this end will be attained by granting certificates to men who are not thoroughly efficient in every branch of the work; therefore, I hope that members of our profession who may be called upon in future to sign certificates of proficiency in the art of shoeing, will see to it that the aspirant is really and truly a competent workman. As to the title, "farrier," we north country practitioners know very well that the term frequently applied to the veterinary surgeon, and especially in country districts. It is misleading to the public for shoeing-smiths to assume the title, "farrier," and the sooner the present arrangement is rescinded the better. We all know how fond many of them are of doing a little doctoring, for with competition of one sort and another to contend with, we can ill afford the door to be opened to quackery.

I consider the raising of the educational standard a step in the right direction. Candidates, before they can now enter our colleges, are obliged to furnish evidence of having received a general education equal to that required for the study of law and medicine, and after admission, they have also to undergo a professional training extending over a period of four years. Even this high standard of education and lengthened professional training does not satisfy some of the members of the profession, and they would add two years' compulsory pupilage with a duly-qualified veterinary surgeon. With such views I have no sympathy. Surely, if a student goes through the four years' curriculum, and passes the examinations of the Royal College of Veterinary Surgeons, he should be a scientific and practical veterinarian. Thanks to the Board of Agriculture, the country is now clear of pleuro-pneumonia and foot-and-mouth disease.

Encouraged by the complete success of the stamping-out policy in pleuro-pneumonia the Board have attacked swine fever in the same way; and although this is a work of great magnitude, no doubt it will be successfully accomplished in the end. It is a matter for regret that tuberculosis is still allowed to remain outside the Contagious Disease Act, seeing it is by far the most widespread, and as regards the loss occasioned by it, the most serious of all the diseases of farm stock. Among cows tuberculosis is on the increase. This is probably due to a want of knowledge on the part of cowkeepers and others regarding the causation of the disease. Ever since Koch incontestably demonstrated the existence of a special germ, all disputes regarding the cause of tuberculosis had in one sense been settled. The hereditary or congenital theory regarding the transmissibility of tuberculosis still prevailed both among veterinary surgeons and stockowners, although according to our best authorities it was no longer tenable. Facts and statistics clearly upheld the view that it was a contagious malady which could with certainty be spread by housing tuberculous and healthy cattle together. As veterinary surgeons it is our province to diffuse correct notions regarding the cause of tuberculosis; and as we can now separate the diseased from the healthy animals in a herd by the use of tuberculin, farmers and other owners may stamp out the disease at a cost that would be trifling compared with the loss entailed by the present neglect of all precautions against the spread of the malady, powers ought to be granted in the interest of the public health to the local authority to prevent the sale of milk from tuberculous cows, and to compensate the butcher for the loss he has to bear for the benefit of the public when he has the carcase of what was to outward observation a healthy animal when alive, condemned because it is affected with tuberculosis.

Gentlemen, I will not further occupy your time only to apologise for not having something better to offer you than these few disjointed remarks. I again thank you for placing me in the chair to preside over the meetings of this Association, and now have the pleasure of introducing my friend Mr. Malcolm who will interest you much better than I could hope to do.

Mr. John Malcolm, F.R.C.V.S., Birmingham, then read a paper on—

"Gastric Rupture and Intestinal Torsion,"

and said it was with diffidence and hesitation he came to read a paper before that Association, as he ran the risk of debarring them from hearing someone on a subject that might be of more interest than the one he ventured to introduce. But the desire to join hands with them in honouring their president, his old college friend and companion, George Mitchell; the anticipated pleasure of renewing friendship with members of an Association to which he used to belong; and the prospect of deriving the benefit of their experience upon a subject of great interest to him, had induced him to acquiesce in their Secretary's request.

He then referred at some length to the heavy annual mortality among horses from gastro-enteric lesions, and asserted that, so far as his own experience went, these lesions were rather on the increase than decrease, and he expressed the opinion that probably half the mortality among the equine species occurred from some gastro-enteric trouble.

In referring to anatomical and physiological conditions, which the speaker considered seemed to favour the production of gastric rupture and intestinal torsion, he instanced the relatively small equine stomach, its liability to impaction, and the impossibility, generally speaking, of relieving it when surcharged, by vomition.

He then went on to refer to the position and direction of the duodenum, and the enormous size and free disposition of the large bowel, and said he considered that these, under certain conditions, enhanced the liability to rupture and twist respectively.

In his experience, the great cause of these fatal lesions was to be found in some defect in food or feeding. Where too large quantities of food were given at irregular intervals, these lesions were common. In connection with this point he considered mixed food, *i.e.*, mixed corn and hay, especially when the proportion of corn was large, more liable to induce both rupture and twist than the old plan of feeding with corn and hay separately. This he explained by the greater rapidity with which mixed food could be consumed than the unmixed, and asserted that the more rapidly the food was consumed so was the liability to engorgement increased. He believed there was no more prolific cause of rupture or twist than gastric engorgement.

Cases were cited where the speaker was able to satisfy himself that deficiency of water during the dry spring and early summer of 1893 gave rise both to cases of rupture and twist, and when a plentiful supply of water was secured the cases at once ceased. The evils of excessive feeding when horses were at rest were next alluded to, and instances of excessive feeding on Sundays giving rise to fatal gastric and intestinal lesions recorded.

In speaking of boiled food he said he could not agree with those who condemned it. In his experience it was not the fact that the food was boiled they had to consider, but the fact that boiled food was usually given in excessive quantities. He could site studs where boiled food had been used for 30 years and where rupture and twist were absolutely unknown.

With reference to the use of wheat as horse food, he was of opinion it could be safely used when ground and damped sometime before being given. Many farmers were so using it at the present time, the inducement to its use being its cheapness. Generally speaking, he was of opinion that the great cause of rupture and twist was the manner in which the feeding and watering were carried out rather than the kind of food given; and he strongly advised all who were troubled by the frequent occurrence of such cases in the studs of which they had charge to try the effect of a change of horse-keeper. He recorded one instance where such a change was followed by an entire cessation of the cases.

Discussion.

The PRESIDENT said he was sure they had all listened with very great interest to the able paper their friend Mr. Malcolm had just read. The subject was one, he took it, which was familiar to most of them. Fortunately for the horses it did not occur every day, because when it did occur it generally proved fatal. Mr. Malcolm had treated it in a very able and comprehensive manner. He had dealt with the cause, which, as in connection with many other diseases, was a great factor. Mr. Malcolm had many advantages which they as general practitioners had not. He had a whole stud under his care, and was able to get at any error, which arose in detail,

in a way that they could not do. He (the President) invited hearty discussion upon the subject.

Mr. C. HUNTING said there was no one present but would agree that the paper just read was an able paper. It must have been the result of many years' careful observation and noting of facts as they had occurred in Mr. Malcolm's practice. He (Mr. Hunting) was greatly pleased to hear such a paper, and would offer a few criticisms upon it. With some statements made by Mr. Malcolm, he did not agree. Mr. Malcolm had given it as his opinion that abdominal disease was more prevalent now than it had been in years past. His (Mr. Hunting's) experience over many thousands of animals, was that it was not within 200 per cent. as frequent now as it had been 50 years ago, or even 20 years ago. His experience over at least five or six thousand animals of the same class and as hard working, was that it was extremely rare they got a case of colic, whereas in 1851-52, when he had under his supervision some 600 or 800 horses out of five or six pits, it was common once or twice a week. Now it was extremely rare that they got one in a month. At the same place, where there were from 100 to 200 animals, they had gone a whole year without having a case of colic. The supply of water in proper quantity was an important point. He did not know whether Mr. Malcolm approved of maize or not. He (Mr. Hunting) had had experiments carried on for a number of years, and his experience was that whenever maize was used to the extent of a third with corn, there was from 200 to 300 per cent. less cases of this disease than when they used oats, beans, and hay. He looked upon maize as a regulator of the digestive organs of the horse. Another curious thing was that cases were more frequent in large horses than in small ones. He had not observed that, but, perhaps, that was because he had no horses more than 15 or 18 cwt., the horses at the pits being generally about eight or nine hundredweights; and that might be one of the reasons why colic or diseases of the digestive organs was so seldom seen there as compared with what Mr. Malcolm had told them. But this he did know that through 20 or 30 collieries where he had from 100 to 300 horses weighing from 13 to 14 cwt. he had not had a case of colic for the last year. Why that should be so he did not know. He should be very much pleased indeed to hear opinions, especially upon this point of feeding—whether colic had been absent in cases where hay, oats, and beans were used as in the cases where maize was used. Mr. Hunting gave particulars of experiments recently carried on by him with regard to the action of foods in the stomach of the horse. In the stomach of animals fed on corn exclusively for four or five days before being killed, he found a large lump of hay three inches in diameter in the centre and the corn food which the horse had had 12 hours before being shot. The food was not mixed, but the whole of the hay was in the centre and the corn was between the membrane of the stomach and the hay. In 1852, in a paper he then wrote, he stated that unquestionably the large intestines of the horse were true organs of digestion—very much more digestive than the stomach itself. And 40 years' experience with many thousands of animals had shown him that the opinion arrived at in 1851 and 1852, was what existed now—that if they gave a horse corn 24 hours or 12 hours, or four hours before they shot it, they would find a very large proportion of that corn in the colon and as far back as the single colon—that was before it entered into the rectum. From the entrance to the colon to the cœcum they found very little difference, and no difference in the anterior part of the colon between the condition of the corn there than they found in the corn remaining in the stomach. So there could be no question whatever that the digestive process was carried on to a much greater extent in the colon of a horse than in the stomach. And what puzzled him was that that was quite contrary to what physiology told him when he was at College. He held that

the absorption from the colon was the principal absorption that took place.

Mr. D. McGREGOR said when he first came here he had ten cases of gripe and rupture to every one he had now. When he came here in 1864 not a day passed—especially Sundays—without his being called to a case. He was frequently called out of bed at two o'clock in the morning to see a horse. Now he was never called at that time. The horses were then kept too long without food. He believed oats to be hard to digest if not masticated. Mr. McGregor described a case of twisted bowel he had recently. The horse died after two hours' illness. A fortnight previously it had had a severe attack of gripes. It had broken from its loose box and wandered away during the night. It was found next morning in a back yard. When taken home it got comparatively well and was worked to the night of its death. It came in at seven o'clock, went perfectly mad and was dead in two hours. He made a *post-mortem* examination and found a double twist in the ileum. He had never seen such a thing before.

(*To be continued.*)

THE MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE annual meeting took place at the Grand Hotel, Birmingham, on Friday, February 8th. The President, Mr. H. Olver, of Tamworth, was in the chair, and there were also present:—Messrs. Barrett, Nuneaton; F. W. Barling, Ross; Stanley, Malcolm, J. Blakeway, M. Tailby, E. Price, J. M. Parker, Birmingham; A. Carless, Stafford; F. B. Jones, Leicester; Slipper, Tamworth; J. R. Green, Alfreton; Brooks, Wilson, Handsworth; Wartnaby, Burton-on-Trent; Trigger, Newcastle, Staffs.; Gold, Redditch; Collett, West Bromwich; Smith, Tunstall; Over, Rugby; Grasby, Daventry; Byner, Birmingham; Warmington, Sutton; Furniss, Nottingham; Cartwright, Beddard, Wolverhampton; Pemberton, Bridgnorth; Chambers, Dudley; Prickett, Walsall; H. J. Dawes, hon. sec., West Bromwich. Visitors: Veterinary-Captain Smith, E. T. Pearce.

Letters of apology for non-attendance were received from the following:—Professors Penberthy, Williams, Pritchard, McCall, Macqueen, McFadyean; Sir H. Simpson, Dr. Fleming; Messrs. Mason, Spencer, Greaves, Bainbridge, Russell, Huband, Wragg, etc.

New Members.

The minutes of the last quarterly meeting having been read and confirmed, the PRESIDENT moved, and Mr. TRIGGER seconded, the election of Mr. T. Slipper, of Tamworth.

Mr. J. R. GREEN moved, and Mr. WARTNABY seconded, the election of Mr. J. Furniss, of Nottingham.

Carried unanimously.

The Late Professor Walley.

The PRESIDENT rose for the purpose of proposing a vote of condolence with the family of the late Professor Walley, a gentleman well known as one of the ablest members of the profession. Professor Walley, he said, was one of those who, from the assistance he had rendered to this Association, had been made one of their honorary associates. He had on many occasions attended their meetings and read papers to them. He was quite sure they would all agree that the late Professor had the veterinary profession thoroughly at heart. He would not only move that a letter of condolence be sent to Mrs. Walley and family on the irreparable loss they have sustained, but also that it be signed by the President and Secretary of the Association and properly engrossed.

Mr. MALCOLM said that as an old pupil of the late Professor, he begged to second the motion. The deceased gentleman was personally known to nearly all of them, and was almost essentially a "Midland" man. There were few meetings which he attended more regularly than those of this Association, and there were few institutions in which he took a deeper interest. Professor Walley took a remarkable interest in all his students, and if they did not succeed in their profession it was their own fault. The consequence was that on a student leaving College, he was a friend of the Professor for life. The profession generally would regret his removal. The Professor was an able teacher, a scientific practitioner, an eloquent writer, and his decease was a national loss.

The resolution was carried *sub silenti.*

Election of Officers.

The PRESIDENT said it had been customary among his predecessors before vacating the chair, to give them a short *resumé* of the proceedings of the year. He thought it somewhat unnecessary to do more than remind them briefly of what had taken place. At the first meeting Professor Penberthy gave them an interesting paper on "Common Parasites of the Stomach and Intestines of Domesticated Animals." At the second meeting Professor Williams gave them an address on "Skin Diseases." At the third meeting, he was proud to say, a Midland Counties man gave them a very original paper on "Canker and some allied Morbid Processes," and there they were that day assembled for the fourth time during his year of office, anticipating an interesting and instructive discourse from their friend Captain Smith. Without further preface he would proceed at once to the nomination of his successor, and he had in his mind's eye a gentleman, who, he thought, would prove acceptable to everyone of them. He alluded to his friend and neighbour, Mr. Wartnaby, of Burton-on-Trent. He felt sure they could not place themselves in abler or worthier hands. As the National Association was to meet here this year, there would be a great deal of important work to be done, and on that account, as much as any other, he had pleasure in proposing that Mr. Wartnaby be president of this Association for the ensuing twelve months.

Mr. STANLEY having briefly seconded,

Mr. TRIGGER supported, and said they had something more than usual to expect of their president next year. He certainly thought Mr. Wartnaby was a gentleman eminently calculated to rule over their deliberations.

The resolution having been carried unanimously and amid applause.

Mr. WARTNABY returned thanks. He said he was very sensible of the compliment they had paid in electing him president of the Association. It was an unfortunate thing for him that he should be called upon to succeed so able a president as his friend Mr. Olver. However, he should do his best to fill the post with credit to himself and with satisfaction to his fellow members, believing that with their kindly co-operation, their future gatherings would lose none of their interest or prestige.

The retiring President, Mr. Olver, becomes a vice-president *ex-officio.* The two others, who were unanimously elected, were Mr. W. Stanley Carless, of Worcester, and Mr. J. R. Green, of Alfreton,—the former on the motion of Mr. STANLEY, seconded by Mr. F. W. BARLING; and the latter on the motion of Mr. TRIGGER, seconded by the HON. SECRETARY, Mr. H. J. Dawes.

Mr. TRIGGER said he had great pleasure in moving the re-election of Mr. John Blakeway as treasurer of the Association. Every year Mr. Blakeway remained in office he showed them how well he followed in the footsteps of his father, who was their treasurer for so many years.

Mr. W. CARLESS seconded. He had just gone through the accounts and was thus in a position to testify to their correctness.

Mr. MALCOLM briefly supported the motion, which was unanimously carried.

Mr. WARTNABY proposed that Mr. H. J. Dawes be re-appointed hon. sec. He was afraid it was the case of the "willing horse" over again. He sincerely hoped Mr. Dawes would consent to remain in office, as it would be a source of much satisfaction to him, as the president-elect, to feel that he had for his right hand man a gentleman of Mr. Dawes' conspicuous ability.

The PRESIDENT wished to be allowed to second that proposition, because it afforded him an opportunity of testifying to Mr. Dawes' zeal and energy on behalf of the Association during the past year. He had had to deal with a good many secretaries, in one capacity or another, but he had never met with one who performed his duties so well as Mr. Dawes, in whose hands the welfare of the Association was perfectly safe.

The resolution was unanimously carried, and Mr. Dawes acknowledged the compliment, and signified his readiness to continue as their secretary.

Treasurer's Annual Report.

The TREASURER presented his annual statement of accounts. The receipts amounted to £228 15s. 10d., being derived from the following sources: balance in bank from previous year, £183 5s. 7d.; subscriptions and entrance fees for 1894 paid into bank, £40 10s.; bank interest, £5 0s. 3d. The payments during the year had been £31 10s. 9d. per the Hon. Sec., and 11s. 6d. per the Treasurer, leaving a balance in hand of £196 13s. 7d. He had to report that there was £4 less paid in subscriptions and entrance fees this year than last, whilst certain exceptional items had made the Hon. Sec.'s bill much heavier than usual.

On the motion of the PRESIDENT, seconded by Mr. GREEN, the accounts were passed.

Notice of Motion.

The TREASURER proceeded to ask for the appointment of an official auditor. The funds of the Association were increasing year by year, and he felt it a great responsibility acting as treasurer without any sort of check upon himself whatever. He felt sure the members were of the same opinion, and he thought they would appoint an auditor or auditors with much better grace if he made the proposal himself.

The HON. SECRETARY pointed out that to make such an appointment would necessitate an alteration of Rule 2, and to alter a rule notice of motion was necessary.

The TREASURER therefore gave notice that at the next meeting of the Association he should move "that Rule 2 be so altered as to admit of the appointment of an official auditor or auditors.

The British Institute of Preventive Medicine.

Mr. MALCOLM, in accordance with notice given at the previous meeting, moved "That a grant of £25 be made to the British Institute of Preventive Medicine." As the matter was fully discussed at the last meeting, it was unnecessary that he should say much about it now. The fact that the Institute in question intended to do its best to investigate the origin, cause, and prevention of diseases in animals was the reason why it ought to appeal to them. Whatever might be said to the contrary, the aims of the Institute were similar in many respects to their own, in which statement the Royal College of Veterinary Surgeons happened to agree. The College had given evidence at one of their recent meetings of their belief that the Institute would be of some service to the veterinary profession, and with the object of assisting it, had voted the sum of £100 towards the Institute. He thought this Association could hardly do otherwise than follow the example of the College.

Mr. WARTNABY said he had very much pleasure in seconding the resolution.

The TREASURER moved as an amendment that the sum of 10 guineas be given. He would remind them that although they had a tolerably large balance, £50 of it was already mortgaged, because it had been promised towards the Jubilee Memorial.

Mr. SMITH seconded the amendment.

Mr. STANLEY thought if they were to give anything at all, it should be £25. If their funds would not allow of that, let them give nothing at present; but for the credit of the Association they ought to subscribe more than ten guineas.

Mr. W. CARLESS having supported the original motion,

The PRESIDENT said he was convinced, from information which had come to his knowledge, that the Institute would be of very considerable value to the veterinary profession, and he hoped the subscription would be £25, as proposed.

On a vote being taken, Mr. Malcolm's motion was carried by an overwhelming majority.

Synopsis of address by Veterinary-Captain F. SMITH, on—

"THE STOMACH OF THE HORSE AND ITS DISEASES."

Anatomy of the Stomach.—Position in the living animal, capacity, structure, glands, and innervation.

Physiology.—The changes occurring to the food during digestion. Rate at which the chyme passes out and the conditions which determine it. No churning movement present. No absorption from the stomach of the horse. The practical bearing of this fact in the treatment of disease. Paralysis of the stomach readily induced; the effect of this on the passage of material into the intestine. The bursting strain of the stomach compared with that of the intestine. The "duodenal trap" and its influence. The production of ruptured stomach. Vomiting in the horse; its significance; the causes which interfere with its production.

Pathology.—Gastritis a rare disease unless from irritant poisoning. Gastritis and enteritis compared, colour of the mucous membrane no indication of gastritis.

Stomach diseases appear to be mainly diseases of distension either from gas or food, though stomach colic in all probability occurs, but not capable of being recognised apart from that of the intestines.

Dilatation of the Stomach described by Percivall; its definition, causes, mouldy food, boiled foods, wind-sucking, change in diet, large quantities of food. Symptoms: œsophageal gurgling, tympany forward under the ribs, character of the pain aids to diagnosis. Brief outline of recorded cases. Treatment: lime water and solution of potash recommended as active absorbents of carbonic acid gas, which practically represents half the gases present. Puncture of bowels. Internal use of drugs intended to purge or relieve pain useless if administered by the stomach as they are not absorbed. Hypodermic or intra-tracheal treatment recommended. The œsophageal dilator, and indications for its use.

Sub-acute dilatation, how distinguished from acute. Early frequent eructation of gases generally a good sign. Treatment as for acute, in addition abdominal compression.

Rupture of the Stomach, causes from without, causes from within, the latter the most common; character of the rent, the value of the omentum. Variable nature of the symptoms, vomiting before or after rupture. Recorded cases.

Stomach staggers not touched on as the lecturer knew nothing of the disease.

Discussion.

Mr. J. MALCOLM opened the discussion, and said they were exceedingly indebted to Captain Smith for his particularly able and interesting address. There was no more important subject to those engaged in town practice than ruptured stomach, and diseases of the stomach generally, which were by no means rare. Within the last 13 or 14 years he had had three distinct outbreaks of ruptured stomach and twisted bowels—the two things being practically co-existent, and he was led to the same conclusion as Captain Smith, namely, that ruptured stomach depended more upon internal than external causes—that it was due rather to the feeding and management than to rolling or knocking about. Exactly how those cases came about was very difficult to explain, but the very able address on the anatomy and physiology of the stomach which they had heard that day, would assist them very materially in arriving at an accurate conclusion. One of the outbreaks he had to deal with he largely attributed at the time to a condition different to any Captain Smith had spoken of, and that was lack of water. It occurred during the hot summer of last year, at a stable which contained 23 horses. At their other stables the horses were fed with the same food, did the same work, and were under the same management, yet they were not affected. He never hesitated at first to put it down to some defect in the management, but as he could not determine the proper cause he sent one of his staff to act as a kind of detective. He watched the whole procedure, and found that the men neglected to water the horses during the day. The natural result was that when they came in at night they drank heaviiy and consumed their food ravenously. Since that had been put a stop to, they had not had another case. He (Mr. Malcolm) thought that was fair evidence that the lack of water had to do with the outbreak. He understood Captain Smith to say that if there was eructation in the œsophagus there would not be rupture of the stomach. He (Mr. Malcolm) had seen several such cases which had unfortunately terminated in rupture. He agreed with Captain Smith about the rarity of gastritis, nor was enteritis so common as it was sometimes said to be. He differed with Captain Smith as to the effects of boiled food. At his (Mr. Malcolm's) home in Scotland, the horses were fed every night upon boiled food, and he never met with a case of ruptured stomach there, although that perhaps might be owing to the fact that they did not give the horses too much at once. He had no doubt mouldy hay would cause tympany, the best cure for which, in his opinion, was tapping.

(*To be continued.*)

SPRING EXAMINATIONS, ONTARIO VETERINARY COLLEGE.

DURING the whole of March, written examinations go on at this College. But these written examinations are for honours, and only in the last week of the month are the tests for graduation applied. In that week the Board of Examiners, appointed by the Government, meet daily for the examination of the candidates. The Board consists of the following veterinary surgeons, viz., Messrs. Wilson, Elliott, Cowan, O'Neil, Shaw, and Loyd, assisted by J. Thorburn, M.D. It was no light ordeal through which the students went in presenting themselves before these gentlemen, but the graduating class, this spring, was an excellent one, and a very high percentage succeeded in obtaining diplomas.

The closing exercises of the College took place on the 29th of March. The large lecture room of the College was filled by the students and their friends. On the platform were Principal A. Smith, F.R.C.V.S., Lieutenant-Governor

Kirkpatrick, Principal Caven, Dr. Thorburn, Dr. Daniel Clark, Dr. J. T. Duncan, Col. Boulton, William Christie, Esq., and others.

Principal SMITH, presiding, in a few introductory remarks, said that in the last two years there had been a falling off in the number of students attending, although the extent of country represented by them was greater than ever before. The College was attended by students from all parts of Canada, the United States, and Great Britain.

Extracts from Foreign Journals.

RABIES PARALYTICA IN THE LARGE RUMINANT.

ON the 7th November last I was sent for by a client to examine one of his cows which had been ailing since the previous evening. On my arrival I was taken by the proprietor to see a young cow – just five years old—of Gascon breed, which was showing symptoms of some kind of gastro-intestinal inflammation; the pulse was hard and quick, conjunctivæ red and injected; flatulence accompanied with tympany and slight colic-pains; respiration quick and laboured, grinding of the molars, dry muzzle, constipation; excreta hard, covered with mucus; hind-quarters swaying about; staring coat and hyperæsthesia of the dorso-lumbar column. The patient, which betrayed her pain by slight but almost continued moans, remained for a long time lying, resting her muzzle on the manger or letting her head lie on one of the sides of the thorax. The appetite had not entirely vanished, for the animal was still eating a good part of her daily food, but rumination was very rare, she had a burning thirst, and it was plain to me that she had considerable difficulty in swallowing, especially liquids. My diagnosis was acute gastro-enteritis; I prescribed for her treatment emollient drenches holding in solution gentle purgatives, and, for external application, emollient fomentations and revulsives; for regimen, farinaceous food in small quantities.

On the following day I returned to see my patient, which had seemed to me the evening before to be very unwell and to be presenting symptoms as above described, that made me somewhat uneasy. I found her in the following condition: the flatulence had entirely disappeared, the flanks of the animal were hollow and sunk and the abdomen limp; no trace of colic, appetite restored and rumination likewise; on the other hand, extraordinary weakness of the hinder-quarters, with noticeable curving of the sacral region, violent attempts at defecation, and obstinate constipation. The contrast between the marked improvement that had taken place in the general condition of the patient and the great weakness of the hinder-quarters struck me as being very strange. "Can it be *rabies*?" I said to myself, and I immediately requested the owner to have the animal brought outside. Her gait was a mere stagger, her hinder-quarters rocking from side to side, and she seemed to be always on the point of falling; she did fall once or twice and we had the utmost difficulty in getting her on to her feet again. Knowing, as all veterinary men know, that the dog is an excellent re-agent in cases of *rabies* among the large ruminants, I excited one to attack the cow, but she was in no way affected by it, and returned quietly to her stall after having attempted to browse upon a few blades of withered grass near the door of the cow-house. These two symptoms appearing to me, as I have said, to be suspicious for more than one reason, I questioned the proprietor, for the purpose of getting information as to the past history of the animal. He ended by telling me, after a good deal of hesitation, that his watch-dog, which had acquired the fatal habit of biting other animals, had died two months before of a disease unknown to him, but which I, from his description, believed to be *rabies*. The symptoms shown by the dog were, absolute refusal to take any food,

irresistible desire to bite everything within his reach, weakness in the hinder-quarters, and, towards the end, paralysis of the lower jaw. "Your cow is rabid," I said to the owner, "and unfortunately it is very probable that others will become so too." The sequel was not long in showing that my gloomy forebodings were correct. On the 9th, the patient was in the same state, she was still eating what was offered to her, and she ruminated occasionally, but the weakness of the hinder-quarters increased, and on the 11th she was unable to rise; she tried indeed to get up but could not manage it. Her appetite had entirely vanished, and it was quite useless to offer her the food of which she had been fondest; she absolutely refused all food and all drink. From each side of her mouth there trickled through the labial commissures an abundant and viscous saliva, but in the buccal cavity not the slightest erosion of the mucous membrane was to be found to explain this salivation. The constipation had given place to diarrhœa, but the efforts in defecation were the same, only perhaps a little more frequent; there was complete prostration, total collapse of the physical powers; not even the slightest moan. On the 12th she died calmly and peacefully.

Eight days after the death of this cow, a two-year old heifer fell suddenly ill. I was sent for and found, as before, extreme weakness of the hinder-quarters, and constant stamping of the hind-legs, likewise curvature, that is to say, depression of the sacral region, this region forming, with the lumbar region, an angle of about 135 degrees; frequent efforts at defecation, with distinct constipation. Appetite and rumination ordinary, but absolute refusal to drink; no signs of *rabies*. Next day the animal did not rise; the paralysis had got the upper hand and become general. The beast was lying on her side, and her whole four limbs exhibited violent and continuous convulsive movements. Two days afterwards this heifer died, after only four days' illness, without making the slightest complaint or uttering the slightest moan.

On the 1st of December, another cow, eight years old, falls ill likewise, shows the same symptoms, and goes through the same course; extreme weakness of the hinder-quarters, curvature of the sacral region, violent expulsive efforts, obstinate constipation, inflation of the abdomen, suspended rumination, difficulty in swallowing, refusal to drink, etc. On the 7th this cow, which for four days had been unable to rise, died during the night, bellowing in the most terrifying manner.

The *post-mortem* of the three animals revealed somewhat vague lesions of gastro-enteritis throughout the entire length of the digestive canal. The spinal marrow presented in the lumbar region very pronounced ecchymoses, and the *pia-mater* showed a pretty distinct injection, which affected even the *arachnoid* and the *dura-mater*.

We have here a case of three cattle, the property of one man, dying, one after the other, at a few days' interval, and all presenting nearly the same symptoms, without the slightest sign of *rabies*, without any bellowing or groaning, except in the case of the third animal at its last moments. Then we have, on the other hand, the dog belonging to the owner of the cattle, which had the habit of biting the animals placed under its charge, dying two months before the first case was noticed, but presenting, as I think, characteristic symptoms of *rabies*; all these circumstances led me to formulate the same diagnoses for the three cases—*rabies paralytica* or *rabies tranquilla*.

I found my opinion corroborated when, a few days after this, another client sent for me and I found in one of his cows the identical symptoms described above. Here there was no doubt possible, for I knew that some of my client's animals had been bitten two months before by a shepherd's dog, and this dog was killed the next day and found by myself to have been suffering from *rabies*. The cow of which I speak died in a state of coma on the ninth day and was followed, three weeks after, by one of her neighbours.

These two separate outbreaks in different herds happened at the right time for me, as they gave my diagnosis that precision which would otherwise have been wanting and would have weakened it, not, certainly, to myself, but in the eyes of my clients and in those of my fellow-practitioners.

When the surgeon knows the antecedents of his patients, when he knows that the animals have been bitten two, three, or even four months before by a rabid dog, it is not difficult for him, on analysing the symptoms, to recognise *rabies paralytica* or *tranquilla*, but it is quite a different story when he has no information of the kind, for it may quite well happen that the animals have been bitten unknown to the proprietor. How is the surgeon to go about it, in order to form a proper diagnosis affirming the presence of the disease, which is *always* a sentence of death for the animal? He will take his stand on the three chief symptoms, which are never associated in any other disease. These are:—

1. Weakness (*paresis*) of the hinder-quarters.
2. Curvature, or declination towards the ground, of the sacral region and the croup.
3. Frequent and exaggerated attempts at defecation.

These symptoms are unfailing; I have observed them in all cattle attacked by *rabies paralytica* or *tranquilla*; they are therefore pathognomonic of this form of *rabies*, so common amongst our large ruminants and so frequently misunderstood. (*U. Faulon*, in the *Recueil de Médecine Vétérinaire.*)

Notes and News.

THE *London Gazette* notifies that during the week ended the 20th ult. cases of rabies were reported from the following counties:—Chester, 1; Lancaster, 3; London, 2; York, West Riding, 9—total, 15.

A LAMB WITH EIGHT LEGS.—A whitefaced ewe, belonging to Mr. Brown, Mains Farm, parish of Kilmalcolm, on Saturday last, gave birth to a lamb having eight legs, four ears, two tails, and one head with three eyes—two of the eyes on the front of the head, and one on the back of it. The lamb had two distinct bodies forward to the loins, where they united and formed one. Two of the legs were a little behind the back of the head. Both ewe and lamb died shortly afterwards,

A HORSE SOMNAMBULIST.—One of the United States army veterinary surgeons stationed at Fort Sheridan reports the following:—"While enjoying a sleep known only to the righteous, I was awakened about 1 a.m. the other morning by a guard from the quartermaster's department in an intense state of excitement summoning me to stable No. 60—the mule quarter—where, according to his version, one of Uncle Sam's best mules was in probably his last paroxysm of tetanus, hydrophobia, or some other equally dreaded malady. Upon reaching the stable, I found the mule lying broadside in his spacious stall, and to a casual observer he appeared to be in great distress; but after watching him carefully for a few minutes, I noticed his antics to be of a regular movement, as though walking, increasing in action, then decreasing, at about regular intervals. I concluded to get him up if possible, and make a careful examination; so giving him a stroke he arose immediately, looked around in a bewildered way, and proceeded to eat hay. On finding his pulse, temperature, &c., normal, and being informed that he was one of the mules used daily in the tread power of the sawing machine, I diagnosed it to be a well-defined case of somnambulism—and we all smiled."

CANADIAN CATTLE RESTRICTIONS—PROPOSED EXPERIMENT.—A correspondence has taken place between Mr. William Sutherland, Peel, Perthshire, and the President of the Board of Agriculture with reference to the continued closing of British ports to the importation of Canadian cattle. Mr. Sutherland

makes a proposal with the view of setting at rest the much-discussed question as to the existence or non-existence of contagious pleuro in Canadian cattle. He suggests that, on the opening of the Canadian cattle shipping season, a half score or so of bullocks should be sent him in sealed trucks out of any such suspected cargo—the selection of the animals to be left to the Government inspector—and he is prepared to take them on what might be considered their fair market value, and house feed them for six months along with home-bred stock on the following conditions :—(1) That in the event of any disease breaking out amongst them during the period of probation he would be permitted to adopt his own treatment ; (2) that in the event of the cattle being to all appearance free from any contagious or scheduled disease at the end of six months he should be allowed a free hand in the disposal of them. If on the expiry of the trial the cattle were declared by competent parties to be affected with contagious pleuro, he would, whilst submitting to their compulsory slaughter, claim no compensation whatever (provided the animals after slaughter were found affected), but retain and dispose of the carcases himself. Every facility would be offered for a thorough watch being kept over both premises and stock during the experiment. This letter is at present under the consideration of the Board of Agriculture.

A COUPLE of months back I devoted some space to the impudent trick practised by a party calling himself the "Star Veterinary Company," who sends out cases of cattle medicine without orders, and, after waiting long enough for the stuff to be consumed or thrown away, follows it up with a bill for £2 10s. It seems desirable to repeat the warning I gave, for a communication just received shows that the trick is still being practised, and, no doubt, there are many farmers and landlords still in danger of being victimised. The proper way to deal with the Star Veterinary Company is to refuse absolutely either to pay for the goods or return them. If the "Company" (as they probably will), bluster, threaten, send solicitors' letters, and eventually serve a county court summons, take no notice of them beyond instructing a competent solicitor to defend the action. They have gone the length of issuing writs in many cases, but they have never yet appeared in court, and are not likely to—unless taken thither on compulsion. Remember also, in dealing with these people, that if they issue a summons to a court more than twenty miles' distance from your place of residence, you can, by sending to the Registrar within four days an affidavit showing that you have a good defence, get an order (unless the Registrar is a purblind idiot) for the company to pay into court a sum of money as security for your costs. If you have still the goods in your possession, I would also recommend that a counter claim should be put in for a reasonable sum as payment for the storage of the goods during the time that they have been on your premises. I don't know whether the Star Company are still sending out their cases of medicine; but should any of my readers in future receive these articles, I would suggest to them that they should follow the example of the gentleman whose case I quoted a fortnight ago—that is to say, give the company prompt notice that if they do not at once remove the goods a specified charge will be made for warehousing them. Should the "company" fail to fetch away the goods after this notice, the specified charge can then undoubtedly be recovered.—*Truth.*

IT is, I believe, intended after the recess to call the attention of the House of Commons to the grievances under which veterinarians suffer by the "reorganisation" of the former Veterinary Department of the Board of Agriculture. These grievances have been set forth in a report by the Council of the Royal College of Veterinary Surgeons, copies of which have been sent to veterinary societies throughout the kingdom, and by them forwarded to the members of Parliament in the various localities. It is contended that

there is now no "Veterinary Department," and that under the unmeaning title of "Animals" Department it is difficult to recognise the division of the Board which has hitherto been trusted with the suppression of disease amongst animals. Complaint is made that a layman is appointed principal of the Department, and is placed over the head of a scientific officer, who, on the retirement of Professor Brown, C.B., the late director of the Veterinary Department, might well have expected promotion to the vacant post and salary. He had not been promoted, and only received an additional £100 a year, while a lay officer with a shorter record of service was promoted to the principalship and given an increase of £400 a year. Under the old arrangement the two chief scientific officers jointly received £1,800 per annum; under the new the two scientific officers receive £1,525, so that the increase of the lay officer was at the expense of the scientific. This change is regarded as a reflection upon the capacity of the whole profession, and as one calculated to destroy the efficiency of the Department; and the Council energetically protest against a so-called "reorganisation" which removes from the hands of a professional expert the control and direction of a Department created for, and solely concerned with, the suppression of disease amongst live stock. The change of name of the Department and the change of position of the officers seem, the Council say, to be explainable only upon the supposition that the interests of the stockowner had been overlooked and the interests of the veterinary profession ignored. Whatever may be the official explanation, the Council cannot but recognise that whereas the form of organisation which had been in force sixteen years was eminently successful, and gave satisfaction to agriculturist and veterinarian, the new system has caused dissatisfaction and been accompanied by a striking want of success.—*Scotsman London Letter.*

The Need for Public Slaughter-houses.—At a meeting of the Church Sanitary Association, held at the Church House, Westminster, on Tuesday last, under the presidency of Dr. Norman Kerr, a paper, contributed by Mr. Francis W. Clark, Medical Officer of Health, Lowestoft, on "The need for Public Slaughter-houses," was read by the Rev. Canon Reith. The writer of the paper said there were numerous Acts designed to prevent the adulteration of food, but the motive of these had been, for the most part, the purely commercial one of depreciated value, and not the hygienic one of wholesomeness. The cocoa and vinegar sold by the grocer were sampled, and penalties inflicted if they were not pure; but when it came to our meat supplies, people were content to purchase anything, provided only that it "looked all right." Few sanitary authorities had seen the wisdom of providing for the due and proper slaughtering and the adequate inspection of all animals for human food, and a lesson might well be learnt from our Continental neighbours, who were far ahead of us in this respect. The slaughtering of animals for food was an operation which must necessarily be attended by a certain amount of nuisance and danger to the health of those in the immediate vicinity, unless it was carried out with the most ample sanitary conveniences and appliances, and, therefore, the English system of private slaughter-houses must be fraught with danger to the public health. The stabling of cattle, sheep, and pigs, in the actual slaughter-house itself were among the least of the defects of these private slaughter-houses, while over-crowding, deficiency of light, and of ventilation were to be found in almost all of them. The greatest danger, however, of the English system of slaughtering arose from the failure to detect and destroy all diseased and unwholesome carcases, and as a consequence much flesh was constantly offered for sale, especially in the poorer quarters, which was unfit for human food. It was unquestionable that tubercle could be conveyed to man by the ingestion of the flesh of tuberculous cattle, and it was an admitted fact that an appreciable proportion

of English cattle were tuberculous. One of the most important factors in the prevalence of consumption throughout England was the unrestricted use of milk from tuberculous cows and the eating of imperfectly cooked tuberculous beef. The public must be taught that they cannot estimate the quality of meat by a mere casual inspection, and he hoped that the Church Sanitary Association, and the clergy generally, would try and rouse public opinion to a truer recognition of the value of sound and wholesome food. After some remarks from the Chairman, Canon Reith, the Rev. M. C. F. Morris, and the Rev. E. G. C. Parr, the proceedings closed.

Blundering with Swine Fever.—On the 1st of November, 1893, the Board of Agriculture delegated to themselves the work of stamping out swine fever. By that time pleuro had been pretty well stamped out by the ruthless and wholesale use of the pole-axe, and so the Board, no doubt, felt that, having succeeded in the Herculean work of stamping out pleuro by means of the pole-axe, they could easily stamp out swine fever in the same way. No doubt, this expectation would have been realised had the work of stamping out been gone about in a right way. But, so far from that being the case, the record of the Board's work in the dealing with swine fever, is one of disgraceful mismanagement, resulting in utter failure. Last year the number of deaths from swine fever was 7,231, as against 6,167 in 1893, before the stamping-out order came into operation. So prevalent was the disease last year all over the country, that no pigs could be shown at the "Royal" or the "Highland" Shows in summer, or at the Birmingham and Smithfield Shows in winter; and this year, again, pigs are to be excluded from the showyard of the "Royal," while, in all likelihood, they will also be excluded from the showyard of the "Highland." These results are not to be wondered at when regard is had to the way in which the work of stamping out the plague has been so grossly mismanaged. As an instance of the way in which the Board had conducted this work, Mr. Cunningham, M.R.C.V.S., Slateford, has recorded, in scarifying language, how dead and diseased pigs in the very centres of clusters of the large piggeries near Edinburgh, have been left for weeks to lie about till the inspectors of the Board should find it convenient to come and give orders for the slaughtering out of the herds in which the outbreaks had occurred. According to the regulations, the Board, on receiving notice of any outbreak, send down an inspector—who is generally some highly undistinguished naval or military officer—to take charge of the case, arrange for the valuation and slaughter of the pigs, and the disinfection of the premises. How far these regulations are being carried out may be judged from a case that recently occurred at Piershill, on the outskirts of Edinburgh. On the 8th of March, the Board were notified that an outbreak of swine fever had occurred in a large piggery. Some days after the Board had received this notification, an inspector appeared on the scene and called in a valuator to value the pigs prior to having the whole herd slaughtered out. The valuer in question proposed to put upon the pigs a value which was little more than one-half their real worth; but the owner indignantly refused to accept that price for his herd. The result was that both inspector and valuer disappeared from the scene, and although more than a month has elapsed since then, nothing further has been done by the Board in the way of stamping out the outbreak or in checking the sale of pigs from the infected herd. And now, after seventeen months of almost incredible mismanagement in the dealing with this disease, a Departmental Committee has been appointed to consider and report, in the course of the coming summer, as to whether the Board be going on the right lines or not. Most certainly no departmental or other committee was required to show any intelligent man that such wretched imbecility as the Board have displayed in the dealing with swine fever could result in nothing but the direst failure.—*North British Agriculturist.*

THE following is a brief summary of the Order in Council which has been passed by the Canadian Government in regard to the prohibition of live cattle importations from the Dominion. It is now under the consideration of the Government. The order states that a disease which appears from lesions in the lungs to have a particular type, alleged by the Board of Agriculture to be pleuro-pneumonia, has been found in about a dozen animals out of 193,860 slaughtered at the ports of landing since the autumn of 1892, and, it may be added, out of a total of 1,393,589 cattle shipped from Canada since 1880. The persistent and reiterated demand by the Board of Agriculture of the Canadian Government to furnish further information of such disease, based on expert examination of lungs after the slaughter of animals, cannot be complied with, for the reason that the disease cannot be found in Canada, notwithstanding diligent and repeated search. This fact leads to the confident belief that the disease does not exist in Canada, and to the conclusion that it is absolutely impossible to furnish any further information in regard to it unless by the discovery of cases in Canada. The indications are held to lead to the belief that the lesions of the lungs of the animals that have been under examination has resulted from the conditions of transportation both in Canada and on the voyage, to bad weather, and to insufficient ventilation. As the lesions have only been discovered in animals which have endured the hardships of travel, to the extent sometimes of from four to five thousand miles, it is claimed that the further information required by the Board of Agriculture can only be obtained in the United Kingdom. It is for these reasons that the veterinary experts in Canada have designated the disease transit-pneumonia. The Canadian Government claim that the inference of the Board of Agriculture that the disease, being bacterial or germ, must have been contracted in Canada, is not supported by evidence, and that there is nothing to show that it might not be contracted during transit. This is supported by the weight of the expert evidence at Mr. Garner's inquiry, which indicated that the lesions were of recent origin ; and it is added that there is nothing in the present discoveries of bacteriological science to confirm the official inference that a bacterial or germ disease may not be developed under such conditions as those referred to. It is held, further, that experience has shown the disease to be non-contagious, and that this is proved by the fact that no cases of lung disease can be attributed to contact with Canadian animals, the Park Hill-Lindores case, in 1892, being put on one side as not supported by sufficient evidence. The severe test of the examination by veterinary experts of the lungs of a large number of animals slaughtered in different abattoirs in various parts of Canada for one month, is referred to in detail, no case of disease having been found. The conclusion of the Board of Agriculture, that contagious pleuro-pneumonia of a special type exists in Canada, is regarded as altogether irreconcilable with the fact that no cases can be found in Canada, and that the disease has never been known in any part of the Dominion, that declaration being made after very earnest search by veterinarians specially employed for the purpose. The report concludes with the offer that if the Board of Agriculture consider it advisable to send one or more veterinarians to Canada for any further elucidation of the facts, the Government will pay the expenses of the mission. The Montreal *Gazette*, referring to the Order in Council, states that the Government cannot make a stronger case ; and that if it fails to restore a restoration of old privileges in the British market, it will be because of influences which are not under Canadian control.

THE Esquimaux dog, from his birth to his death—which, in many instances, is a violent one—never knows the luxury of shelter or a bed. He spends his existence outdoors, and appears to be more comfortable in winter than in summer. The pups, when hardly able to toddle, instinctively show an

ambition to run with sleighs, and join with their treble squeals the enthusiastic chorus of howls with which the Esquimaux dog invariably greets the first fall of snow, for the Esquimaux dog never barks. The ambition of the young dog is soon taken advantage of by the Esquimaux. The little fellows are hitched to sleighs in company with full-grown dogs, and to prevent them from being run over they are tied by the neck to the tow-line, so that when the run starts they are compelled to keep up, or be dragged by the team. This simple though brutal method of training is very effective, and after one or two runs the dog understands what is wanted of him. Even before he is full-grown he is thoroughly conversant with his duties. The much-referred-to intelligence of the Scotch collie, which is a sort of first cousin of the Esquimaux dog, is undoubtedly surpassed by that of his Arctic relative. Some of the characteristics of the Esquimaux draught dog are almost incredible. Anyone who has observed them finds it difficult to deny him the credit of reasoning power. The writer had one dog which persisted in feigning lameness or sickness in order to shirk duty. He would suddenly begin to limp dreadfully, and look back at his driver with a most pathetic expression. He succeeded several times in arousing my sympathy and being released from harness, until one of my Esquimaux assured me it was all trickery. After that I punished him whenever he tried to shirk, and in every case it would be days before any sign of lameness would be seen. He had a trick of slipping out of the harness, in which he was an expert, and made his escape from the ropes in a manner which would make a spiritualistic medium green with envy. This dog, through shirking his work, had incurred the enmity of the rest of his team, and they resented repeatedly his unwillingness to meet his part of the team's obligations. I saved him several times from the fierce onslaught of his colleagues after he had run away from the sled. A good Esquimaux leader dog is a wonder of intelligence. He is not guided by line or whip, but merely by whip or motions of the hands. If, when the team is rapidly moving, he be suddenly called upon to halt, it stands to reason that if he stopped abruptly the rest of the team and the sled would run over him, or become entangled in a snarl. He, therefore, when commanded to halt, makes a curve to the right or left and faces to the rear, moving slowly until the sled can be stopped. He then looks with bright eyes at the commander, waiting orders, and a motion of his hand suffices to make him change the direction in which the outfit is going. The leader, at least in some instances I have observed, is extremely proud of his responsibility, and, as a consequence, maintains an exclusive demeanour towards his colleagues. He sleeps by himself, and growls when approached by what he considers his inferiors. The worst punishment that can be inflicted upon a conscientious leader dog is to reduce him to the ranks. On the other hand, the dog that has been promoted at once assumes a self-conscious strut. Fidelity is the chief virtue of the Esquimaux dog. One of my leaders, when crippled by starvation and overwork, had to be abandoned because he refused to be carried on the sled. I left him behind, feeling as if I were tearing myself away from a dear friend, but before we continued our way I gave him the last fish we had, depriving ourselves of that much food. Three days afterwards, while we were encamping at the Esquimaux village of Kahonak, the dog reached us, having followed our trail with bleeding feet and emaciated body for eighty-five miles.

Extraordinary Career of a Government Commission.—In continuation of the controversy between the Edinburgh Master Butchers' Association and Mr. Shaw Lefevre of the Local Government Board on the subject of receiving a deputation on the subject of bovine tuberculosis, we have been handed a second print containing a letter from Mr. H. C. Monro of the Local Government Board to Mr. R. Addison Smith, S.S.C., the law agent of the

butchers; and extracts from "Hansard" sent by Mr. Addison Smith to Mr. Monro, which shows the dilatoriness of the Commissioners who were appointed to inquire into the subject of tuberculosis in cattle. The letter is as follows:—

Letter from Mr. Monro to Mr. R. Addison Smith.

Local Government Board, Whitehall, S.W.,
25th March, 1895.

DEAR SIR,—I beg to acknowledge the receipt of your letter of the 22nd inst, which I have shown to Mr. Shaw Lefevre.

It appears to have been written under considerable misapprehension of the facts of the case in regard to the report of the Royal Commission on Tubercnlosis. That report is not yet prepared, and therefore it is not in the hands of the Government, and they are in no way responsible for the delay in its issue. When it is made, it will be made to the Queen, and having been presented to Her Majesty, will no doubt be laid before Parliament in the usual way.

Until the report is published, it is quite impossible for Mr. Shaw Lefevre to make any statement on the subject, and under these circumstances there would have been no advantage in his troubling a large deputation to come from Scotland to present their case. As I informed you on Friday by telegram, Mr. Shaw Lefevre was quite willing that the deputation which is to wait on him on Tuesday should contain one or two representatives from Scotland; and if, as you state, the trade in that country is "absolutely unanimous on the subject," I see no reason why one man should not be as well able as twelve or fifteen to express the views of his fellow-traders.

You do not allege that the interests of Scotland in this matter are different from those of England or of Ireland, and Mr. Shaw Lefevre hopes that, although you have declined the opportunity of presenting the case of Scotland to him at to-morrow's deputation, the considerations which will then be laid before him on behalf of the trade generally will be as representative of the Scottish section of it as of any other.—

Yours faithfully, H. C. MONRO.

R. Addison Smith, Esq.

The Commissioners were appointed in 1890. They were Lord Basing, Professor Brown, Dr. George Buchanan, Mr. Frank Payne, and Professor Burdon Sanderson. After waiting for nearly three years for the report, members of Parliament interested in the subject, began to inquire when it might be expected. On the 2nd February, 1893, Lord Wolmer asked the President of the Board of Agriculture whether he was aware that much inconvenience had been caused by the delay in the publication of the report of the Departmental Committee, which was appointed more than two years ago to inquire into the question of tuberculosis, and whether he could inform the House when that report may be expected. The President of the Local Government Board (Mr. H. H. Fowler), said:—"The Royal Commission which was appointed in 1890, has not yet reported. I have communicated with the Commission, and the reply which I have received is that the Commission have not yet completed their inquiries, and that, at present, they are unable to state when their report will be made." On the 14th February, 1893, Mr. Yerburgh asked the President of the Board of Agriculture whether, in view of the recent Agricultural Conference having unanimously passed a resolution to the effect that tuberculosis should be included in the Contagious Diseases (Animals) Acts, he has taken any steps to secure an early report from the Royal Commission upon Tuberculosis. Mr. Gardner said in reply:—"We have frequently been in communication with the Royal Commission with regard to this matter, and every endeavour is being made by them to expedite the completion of their work so far as is compatible with complete scientific investigation of the questions committed to them. On the 11th April, 1893, Mr. Field again asked the President of the Local Government Board whether the bovine tuberculosis report was ready, and if not, when it may be expected. Mr. H. H. Fowler replied:—"The hon. member will probably recollect that, on the 17th March, I informed him that it was anticipated that the investigations of the Royal Commission might be completed by the end of June, and that the report would be presented as soon

as possible afterwards." The subject was again raised by Mr. Field on the 1st June, and Mr. W. Redmond asked the President of the Local Government Board to point out to the Commissioners the desirability of reporting as quickly as possible. On the 24th November, 1893, in reply to Mr. Field, Mr. H. H. Fowler stated that it was confidently expected the report would be issued next month. On the 8th December, 1893, Lord Wolmer asked the President of the Local Government Board whether it was expected that the departmental report on animal tuberculosis would be presented on an early date, and if not, whether, in view of the great pecuniary loss being suffered by butchers throughout the country, special representations would be made to the Committee to finish their inquiries (which had now extended over three years) and submit their report without further delay. In reply, the Secretary of the Local Government Board still expressed the confident hope the report would be issued that month. Sir. W. Foster, in replying to a question by Sir Mark Stewart, on the 18th December, said the report "will" shortly be issued. In reply to Mr. Field, on the 26th February, 1894, Mr. H. H. Fowler said—"The report will shortly be issued." On the 15th March, 1894, in reply to Mr. Field, Mr. Shaw-Lefevre said—"I am informed that the work of the Royal Commission on Tuberculosis is being proceeded with with all possible speed, and that it is hoped the report will be issued shortly." On the 10th May, 1894, Mr. Field again inquired about the report, and Mr. Shaw-Lefevre said—"I am informed by the Commissioners that satisfactory progress is being made with the report, which may shortly be expected. Mr. Field asked if a date could be fixed, "because," he added, "I have been asking questions upon this subject ever since I have been in the House." Mr. Shaw-Lefevre, however, could add nothing to the answer he had given. Mr. Chaplin on the 28th May asked the reason for the continued non-appearance of the report, and Mr. Shaw-Lefevre said—"The Royal Commission on tuberculosis was appointed on the 21st of July, 1890. I am informed by the Commission that they have completed the taking of evidence, but have been engaged upon a long and elaborate experimental inquiry. Owing to the illness of one of the inquirers, there has been a delay in the completion of one of the scientific reports, but this is now being revised in passing through the press. Immediately it is printed the Commissioners will meet, and their report may be shortly expected." Then on the 28th June, 1894, Mr. Field asked about the report, and reminded the President of the Local Government Board that this was "about the sixteenth time I have asked it." Mr. Shaw-Lefevre said, "the Commissioners are now considering their report." In reply to Mr. Hunter (the member for Aberdeen), Mr. Shaw-Lefevre said on the 20th July, 1894, "the report will shortly be issued," and in answer to Mr. Donald Crawford, who on the 13th August, 1894, inquired about the delay, the same stereotyped answer was made by Mr. Lefevre—"The report will shortly be issued." The report is not issued yet.—*From "Edinburgh Evening Dispatch," March 28th.*

Correspondence.

To the Editor of the VETERINARY JOURNAL.

SIR,—The case of pleuro-pneumonia in the horse, recorded by Mr. F. B. Byrne in the VETERINARY JOURNAL for April, although very interesting, still is open to criticism, which, with your permission, I intend to bring to bear on it. In the first place, with reference to the diagnosis, surely, given a case exhibiting symptoms of pain as described, with temperature 103°, respirations embarrassed, slight cough, nasal discharge, and pulse 70 with a full artery, and if after two sedative doses pain is relieved, it is not necessary to wait until the

next day to make a diagnosis, and to find on auscultation, a patch of consolidation near the base of the right lung, are we to believe that there are no diagnostic symptoms of pleurisy and pneumonia until this stage is reached?

Symptoms of pain preceding an attack of pleuro-pneumonia in the horse are by no means rare, but by careful observation we can generally discover the commencement of the respiratory affection, and adopt treatment in the early stages.

Next, with regard to treatment, Mr. Byrne writes in an egotistical manner, as if all practitioners indulged in the employment of stimulants and counter-irritants in a rash and injudicious manner, and that he is anxious to set them right. He should be aware that clinical experience has clearly demonstrated that both these measures, if adopted in suitable cases and in a judicious manner, are productive of the most beneficial results; also, that an intelligent practitioner, whether he be old or young, does not lay down lines of treatment for himself, expectant, heroic, or otherwise; he treats each case on its merits.

The case Mr. Byrne records is but an individual one, and he should consider that if it were treated on other lines, the result might have been similar.

The emaciated condition, the absence of pulsation in the arteries (?), and the profound debility, etc., are surely the most important indications for the employment of alcoholic stimulants. That this animal managed by chance to pull through without stimulants is no argument; it is simply a coincidence, and as "one swallow does not make a summer," so one case does not prove or contradict a theory.

We are told that for three days in this case the appetite was entirely in abeyance, and there was a temperature of 106°, pulse sometimes imperceptible, with occasional symptoms of pain in addition.

Surely carbonate of ammonia three times a day was a very trivial stimulant for such a serious case as this. If this case had been treated at the commencement by the judicious administration of alcoholic stimulants, and mustard to the sides of the thorax, and also the liberal use of quinine internally, a far safer recovery would have occurred.

I have seen many cases of this nature, in which the greatest relief was obtained from the use of counter-irritants, and the most beneficial results from the timely administration of alcohol, and I believe from the commencement in doing everything which will help to turn the scale in favour of the patient. I should be glad if Mr. Byrne would inform me if he has had practical evidence of the evil effects of stimulants and counter-irritants.—Yours, etc.,

T. H. Sherlock,
Student, Royal Dick Veterinary College.

Communications, Books, Journals, etc., Received.

Books and Pamphlets: "The Warble Fly," by Miss Ormerod; Appendix to the Report of the Minister of Agriculture, 1894.

Letters and Communications received from T. H. Sherlock, Esq.; North of England Veterinary Medical Society; Army Veterinary Department; Midland Counties Veterinary Medical Association; N. B. Agriculturist; Report of Royal Commission on Horse Breeding; Border Counties Veterinary Medical Society; J. Mathews, Esq., Bangor; Veterinary-Captain Pease; E. Wallis Hoare, Esq., F.R.C.V.S., Cork.

Journals, etc.: *Veterinarian; Veterinary Record; American Veterinary Review; Berliner Thierarzlichte Wochenschrift; Recueil de Médecine Vétérinaire; Buchhandlung für Medicin und Naturwissenschaften; The Journal of Comparative Medicine and Veterinary Archives, Philadelphia; Bulletin of the Johns Hopkins Hospital, Baltimore.*

The Veterinary Journal

AND

Annals of Comparative Pathology.

JUNE, 1895.

Editorial.

The readers of the Journal will peruse with some degree of interest, the Report of the Royal Commission on Tuberculosis, which I have been enabled to furnish them with in this month's issue. I am bound to admit that the experimental researches made by the members of the Commission have confirmed what has been known regarding Tuberculosis to the veterinary profession for years past, but I regret that it has taken almost five years to bring the enquiries and researches of the Commission to a conclusion. I fervently trust that our Government will not now "take pause" and pursue a policy of inaction, as happened after the investigations of 1888, apparently influenced by considerations that related more particularly to the difficulty in diagnosing, and to compensation for the destruction of pedigree cattle. I think that not only should the Commission have finished its enquiries, etc., within five years, but that, in addition, the all-powerful and sapient "Animals" Department of the Board of Agriculture should have had the disease well in hand, or its progress checked at all events, by the application of measures that would eventually have ensured its extirpation. That day *must* come; wherefore this delay? Tuberculosis in cattle is not a disease of yesterday merely.

In the year 1865, Villemin discovered that man could communicate Tuberculosis to the bovine species. Further experiments by Chauveau proved it not only to be inoculable, but producible by ingestion. In 1881, Toussaint further discovered that the organisms of Tuberculosis could be cultivated outside of the body of the animal. But the crowning

discovery was Koch's in 1882, viz., that of the "Bacillus Tuberculosis." Innumerable experiments since then have amply confirmed the soundness of the discoveries, and the correctness of the teachings of these eminent scientists. The labours of the Commission which have just been completed, have in no material point forwarded our knowledge, or gone the length of recommending any line of action, as did that of 1888, which latter recommended the adoption of measures for the prevention and extirpation of Tuberculosis, that were never carried out, even in the remotest degree. Had they been so carried out, it is highly probable that the formation of the last Commission would not have been found necessary.

I am of opinion that the work of the last Commission has ended in a manner not altogether satisfactory to the general public. The text given to it to preach from, an old one, "Cauld kail, het again," has been religiously stuck to. There has been a long and expensive course of study, to enable the Commission to deliver it, yet no way of escape from the evils expounded on, except boiling our lacteal supply, has been shown or offered to us. Oh! no. "We note that your Majesty's gracious commands do not extend to enquiry or report on administrative procedures available for reducing the amount of tuberculous material in the food, supplied by animals to man, and we have regarded such questions as being beyond our province." So runs the concluding paragraph of the Report. "And pity 'tis 'tis true." I recognise and appreciate the great scientific attainments of the gentlemen appointed to the work of the last Commission. They numbered among them Professor G. T. Brown, C.B., than whom there does not exist a man better qualified to grapple with a pestilential disease among the lower animals such as Tuberculosis has become to be; yet, in his Addendum to the Report, his recommendations are, to a great extent, more negative than positive in character.

To those who are aware of the great and rapidly-increasing prevalence of this deadly disease, the outcome of the lengthened sitting of the Commission is most disappointing. The disease is spreading to an alarming extent, demanding immediate remedial action by the Government, in the interests of the public at large. The disease is of so subtle and virulent a nature, that the milk from one tuberculous quarter of a cow's udder, contaminates with the death-dealing bacilli the milk from all the cows in a dairy when mixed with it. This is a solemn truth, a fact that cannot be refuted. How grave

is the responsibility of a Government that continues to palter with a disease pregnant with such far-reaching and deadly consequences.

Regarding its prevalence, the Royal Commission on Agriculture, only some few months ago, were furnished with information of a thoroughly reliable kind, that the famous Ayrshire and Wigtownshire breeds of cows were found to be seriously affected, to the extent in some herds of 75 per cent., also that many cows died from its ravages. It was reported that twenty to twenty-five years ago, the disease was comparatively unknown, evidence being produced to prove that the present calamitous state of matters has resulted from breeding with highly in-bred bulls. The celebrated *Polled Angus*, and other breeds, from the same cause has also become contaminated to an extent that is not generally realised. I would advise the Government to come at once to the rescue. We have now at our command a diagnostic test of incalculable value in "tuberculin." The judicious use of this test, and the compulsory inspection of dairy cows by qualified veterinarians, should be put into force without delay. The recommendations made by the Department Committee of the Privy Council in the year 1888, to schedule the disease, slaughter and give compensation, should be acted upon. This might not meet with the approval of some owners of herds, but the question has become of national importance and should in this spirit be dealt with. By no other means can we hope to exterminate a disease whose rapid spread is creating alarm among all owners and breeders of bovine stock, and which menaces the health of the whole population of the country.

Since writing the above I learn, to my great satisfaction, that the Belgian Government is about to take energetic measures for the suppression of tuberculosis. The *Echo Vétérinaire*, of Liége, says:—"The Government has framed a Bill dealing with tuberculosis from the point of view of public health, and it seems that the outcome of this measure will be that injections of tuberculin will be made compulsory in certain circumstances. Being desirous of making the new measure a success, the Government will undertake all the expenses incurred through its operation. The Minister of Agriculture (M. de Bruyn) has given proof of his practical common-sense in proposing the scrutiny of all farm-stock with a view to the discovery of tuberculous animals; this would enable surgeons to apply the remedy demanded by the circumstances, and would unquestionably result in the extir-

pation of the disease—a most glorious result." The writer goes on to say that the Government Bill ought to receive the hearty co-operation and support of all veterinary surgeons. He advises his colleagues in the profession not to be too exacting in their demands, but to see that they get a fair and equitable tariff of fees fixed by the Government. He is equally strong in advising his professional brethren to secure the work of tuberculination for themselves, as being those whose natural right it is, and not to allow the Government to impose this duty on inspectors or their assistants. "It is the right of veterinary surgeons to perform this tuberculination, and, in our opinion, it ought to be the right of the surgeon ordinarily visiting the establishment where the disease has broken out to perform the operation. Such an arrangement would be not only just, but it would do away with the drawbacks resulting from a choice of operators. Of course, in order to secure this right the visiting surgeon would require on his part to make some sacrifice, and, seeing that the Government would be his paymaster, he need not hesitate to do this."

At a meeting of the Veterinary Medical Society of Liége, the subject of fees exigible by surgeons performing tuberculination of animals was discussed and the following scale proposed:—For operating on animals within the parish in which the surgeon resides, 50 centimes (about 5d.) per head for the first ten subjects, and 25 centimes per head when the number exceeds ten. In addition, a fee of one franc 50 centimes (say 1s. 3d.) per visit, the number of these to be restricted to three, one on the day of operation and the two others on the following day, for the purpose of taking the temperatures. These fees to be increased proportionately to the distance travelled by the surgeon, and an allowance to be made for travelling expenses.

Here is an example for the British Government.

AN UNSEEMLY DISPLAY.

It is with great regret that I find myself compelled to take notice of an outburst of bad feeling which has taken place in an Edinburgh veterinary institution. I generally try to avoid mixing myself up with my neighbours' quarrels, especially when they are of a sordid kind, and I would gladly save my readers all reference to this ridiculous affair, knowing that such reference gives it an importance and a prominence which it does not deserve, but my silence might be misconstrued and might be supposed to mean that I took guilt to

myself or that I perhaps felt annoyed by the taunts and jeers of my opponents. As Editor of this Journal, as Principal of the New Veterinary College, and as a member of the Edinburgh Town Council, therefore, I crave the indulgence of the veterinary public whilst I detail the matter which has given rise to an extremely offensive article in the *Veterinarian*, the organ of the Dick Veterinary College.

On the death of Professor Walley, whose loss we all deplore, it was thought that a good opportunity was presented for amalgamating the two rival veterinary colleges in Edinburgh. There were many cogent reasons for this union and consolidation of the veterinary teaching power in Edinburgh. The Lord Provost of the city, who is *ex officio* a member of the Edinburgh University Court and a member and ex-Master of the Merchant Company—the most powerful and influential patrons of education in Scotland—saw that the training of veterinary students was gradually becoming a more and more important matter for the country and deserved more careful recognition than had hitherto been bestowed upon it. Being a far-seeing and patriotic Scotchman he thought it desirable that another feather should be added to the bonnet of the capital of Scotland, whose "chief industry" as one of his predecessors humorously put it, is education; and he made efforts to amalgamate the veterinary colleges. Undoubtedly he was right, unquestionably veterinary science would have benefited and veterinary teaching would have improved, had the Lord Provost's proposal been carried out. But there were jealousies to be overcome, there were old-standing rivalries to be got out of the way before the beneficent scheme of Lord Provost Macdonald and his colleagues, the trustees of the Dick College, could take effect, and unfortunately these rivalries and jealousies were victorious and the scheme was balked. Let my readers take note that it was not decided beforehand how the amalgamation should be effected, that is, which of the two elements was to predominate, what was to be the name of the new college, or who was to be the Principal. The scheme was conceived in the interests of the higher scientific education, and probably with a view to an eventual connection between the Veterinary College and the University of Edinburgh. It is possible I might have been honoured by my fellow-citizens by being asked to conduct the new establishment for a year or two, at any rate at its commencement, but that was by no means a certainty, and I should have been pleased to stand aside had an abler

or more suitable man been found to fill the difficult and troublesome position. This I will solemnly declare, that, as a member of the Edinburgh Town Council—who are the patrons of the Dick College—I took no part, could take no part, in the negotiations that were conducted by the Council for the purpose of amalgamating the colleges; no self-respecting body of citizens would permit an interested member to vote on his own case, and I never attempted to take part in the negotiations, never wished, but kept studiously and scrupulously aloof.

The scheme, as I have said, was frustrated, and no sooner was it known that the laudable efforts of the Lord Provost and others had failed, than a shriek of jubilation came forth from the Dick College. In the *Veterinarian* for May there appears an editorial article from which I quote a passage, leaving my readers to form their own opinion as to the good feeling and refined taste displayed by the writer:—"Amalgamation and union are words to conjure with, and the small but very active party that have been engaged in pushing this matter before the public notice have made the most of them. Motions in Council, platform addresses, newspaper articles, representations and misrepresentations have all failed to carry into effect the neat little scheme. The trustees, having investigated the matter, found that the question, as they gently expressed it, was 'surrounded with many difficulties.' We are not informed as to the kind of difficulties, but as the partisans of the New College have not been able to hide what *their* views of amalgamation amounted to, and as that evidently was the absorption of the old College by the new one, we can quite understand how great were the difficulties encountered. We read recently that a serpent in the Zoological Gardens succeeded in swallowing another of its own size—a remarkable effort accomplished with great difficulty—and we understand that it has since died of the surfeit. We can easily imagine how much greater would have been the difficulty and how much more rapidly fatal the result, if it had attempted to swallow one twice its own size, and we cannot but congratulate the New College that it has been saved from its friends who were anxious to see it 'go one better' than the serpent at the Zoo." The spitefulness underlying this ponderous witticism will become more apparent further on.

At the meeting of the Town Council of Edinburgh, on the 7th May, at which the Lord Provost was not present, the article in the *Veterinarian* was brought under the notice of

the Council by Councillor Cranston, as shown by the following extract from the *Scotsman* of 8th May :—

Mr. Cranston drew the attention of the Council to an article which had appeared in a veterinary magazine, which, he said, contained an attack upon the Town Council as trustees of the Dick College. That magazine was edited within the College, and no more uncalled-for, more ungentlemanly, and more blackguardly piece of literature was ever produced by any man. That language was strong, but it was not stronger than the article in the magazine, which stigmatised the Council as being engaged in hole-and-corner work, and he for one would not permit Dr. Aitken, or any other professor, to write in such a manner, without giving expression to his own opinion. The Dick Trustees should convey to these gentlemen that what the Council did was in the interests of the city, and if it was found that the action was not in the interests of the city, it was not because any hole-and-corner scheme existed.

Mr. Hay said he sympathised with what had been said by Mr. Cranston. Everything had been done for the good of the College, and he detested the insinuations that had been cast upon himself and his colleagues.

The Chairman said that in the Lord Provost they had a man who had considered the subject to the best of his ability, who was convinced of the need of reform of the institution, and who would not be driven aside. Sir James Russell had also given the subject earnest consideration, and they might trust these two gentlemen to see that the Dick Trust would be put on a new footing. If the professors proved intractable, perhaps others would be got to take their places.

Next follows a remarkable letter from Dr. Aitken, which is distinguished by the absence of that jubilant hilarity that characterized the magazine article.

Royal (Dick's) Veterinary College,
Edinburgh, *May* 8, 1895.

Sir,—I beg your permission for space to reply to a serious charge made by Councillor Cranston at yesterday's meeting of the Town Council. He is reported to have said that the editors of the journal emanating from this College did in its pages "stigmatise the Town Council as being engaged in hole-and-corner work."

Happily, the charge is quite unfounded, and the violent language in which it was expressed entirely unwarranted. It is unfortunate if the article complained of is so expressed as to cause anyone to put this wrong construction on it. The "active party" mentioned in the article has no reference whatever to the Town Councillors, who are trustees of the Dick College, but to a set of busybodies who have persistently endeavoured to force the trustees into adopting their amalgamation policy by publishing articles in newspapers and magazines containing misrepresentations and insinuations injurious to the interests of this College. The teaching staff drew the attention of the trustees to these matters, and asked that they might be heard by them so that they might inform them of the injury that was being done by this circulation. That request was met in the most frank and ample manner. Who the promoters of the amalgamation scheme were I know not, and I understand they are equally unknown to Principal Williams, who very properly took no part whatever in the scheme either one way or another. It is quite inconceivable that the trustees could have been taking any other part in the matter than that which tended towards the success of their institution and the public good. I much regret the misunderstanding that has occurred, and, so far as I am concerned, I shall take steps to prevent further misconception.—I am, &c.,

A. P. Aitken.

Then Mr. Cranston valiantly returns to the attack :—

Dunard, Grange Loan, Edinburgh, *May 9th*, 1895.

SIR,—In your issue of to-day you have a reply from Professor A. P. Aitken to my complaint made at the last meeting of the Edinburgh Town Council.

Let me first call attention to the fact that I did not state, nor do you report that I said, "the editors of the journal stigmatised the town council," etc. I said—"In a journal of which Professor Aitken, of the Veterinary College, was one of the editors." I never attributed the article to the pen of Professor Aitken. My complaint was, and is, that he (as editor of the journal) should have permitted such an article to have a place within its pages. The journal referred to is the *Veterinarian*, and is edited by Professors Aitken, Dewar, and Mettam.

Now is the important point! He states--"Happily, the charge is quite unfounded." Is it a fact that he is editor? Is it a fact that the article appears in the journal? and is it a fact that the following words occur in the article :--"Motions in council, platform addresses, newspaper articles, representations and misrepresentations, have all failed to carry into effect the neat little scheme. . . . We read recently that a serpent at the Zoological Gardens succeeded in swallowing another of its own size--a remarkable effort, accomplished with great difficulty, and we understand that it has since died of the surfeit. . . . We cannot but congratulate the New College that it has been saved from its friends who were anxious to see it go one better than the serpent at the Zoo." Who could the motions in the Council be by but by the Councillors? Who are the trustees of the Dick College?--the Councillors. Professor Aitken's letter is simply a cave in--an admission that he has done wrong, and as such I am perfectly willing to accept it. I am perfectly certain that Professor Aitken, in his zeal, has overstepped the mark, and I think that Professor Aitken and his colleagues will admit that no man was more anxious than I was, and am still, to preserve all the interests of the Dick College ; but, as I stated at the Council, I am not prepared to allow any gentleman to make an uncalled-for attack upon either myself or my colleagues in the Town Council. I feel very keenly on the subject, as Professor Aitken knows well that everything was done in the interests of the Dick College, by myself and others, and if he will read the article in question, he will undoubtedly see that I had good ground for complaint.--I am, &c., ROBERT CRANSTON.

To this letter of Mr. Cranston's there was, of course, no reply, and I might therefore bring my article to a close at this point, leaving Dr. Aitken to smart under Mr. Cranston's severe castigation, but I feel bound to acknowledge the kindness of the Edinburgh press by re-printing a short leader that appeared in the *Evening Dispatch* of 11th May.

The affairs of the Dick Veterinary College have assumed a new aspect in consequence of the blunder of the professorial editors of the *Veterinarian*, and, unfortunately for themselves and the institution they represent, Professor Aitken, their spokesman, has made the matter worse by his explanation. In this explanation he denied Councillor Cranston's charge that the officials had accused members of the Town Council of engaging in hole-and-corner intrigues. It was only "busybodies" in newspapers who were meant, says Professor Aitken. Now this is what may be called protesting too much. The Professor in the original said "Motions in Council, platform addresses, newspaper articles, representations and misrepresentations, have all failed to carry into effect this neat little scheme." Does he then seriously mean to assert

that he and his co-editors did not here mean to refer to Councillors as well as others, or how could newspaper busybodies make "motions in Council?" As a matter of fact, the proposal for amalgamation—a most wise and opportune one, we think—originated in the Council, and was supported in newspapers, including the *Times*. Among others, we pointed out the great advantages that would accrue not only to the city but also to the country and the veterinary profession from having one strong, well-staffed, and equipped College in this city instead of two, which were likely to meet with greater opposition in the near future, and ought therefore to consolidate their resources. The Government have promised to subsidise a College in Dublin—another concession to Irish importunity—and it is well-known that a large proportion of the veterinary students are drawn from Ireland. The present number of Irish students is not likely, therefore, to be long maintained. The most urgent reason of all, however, is sufficiently well known to the Council, and we may now disclose it to the public. The Dick College is in a bad way financially; in the course of the past twelve years it has accumulated a debt which at present stands at £12,514 1s. 4d. Obviously, then, the existing state of things is not wholesome, and it behoves the Council even yet to consider carefully the present and future of the College. A similar favourable opportunity may not soon occur again.

The statement which the editor makes as to financial matters is sufficiently grave; it throws quite a strong light on the serpent story and makes one think of the story of the frog that wished to be as big as the ox; the little animal puffed itself out terribly, but—it was all wind and at last poor little froggy burst.

PERSISTENT PROLAPSUS OF THE RECTUM IN THE DOG—LAPAROTOMY—FIXATION OF THE BOWEL TO THE VENTRAL WALL—RECOVERY.

BY HENRY GRAY, M.R.C.V.S., KENSINGTON.

THE subject of this communication was a male pug puppy, aged three months when I purchased him in January last for my children.

During the first week of February it was seized with an attack of distemper, and as he evacuated a quantity of ascarides, which seemed to cause tenesmus, I ordered him an ordinary worm pill. A few days after this, about two inches of the rectum was found to be protruding from the anus. As a bandage failed to retain the bowel, I passed a metallic suture transversely through the anus, and ordered quietude and a milk diet. A week after I removed the suture, which was quickly followed by a return of the prolapsus. Suture inserted again, but this time the gut would at times be pushed by until another suture was also inserted. As I found them cutting through the anus, I removed them about ten days after the last insertion, but the gut was found next morning

hanging out of the anus. This time it was retained by passing the suture vertically through the anus. A few days before Good Friday I removed it again to be followed by a return of the complaint. By this time I began to get tired of doing anything more for the animal in the shape of an operation, so I ordered an astringent lotion composed of zinc. sulph. gr. v., tr. opii m.x., aquæ 1 oz., to be sponged three times a day on the mucous membrane of the protruded gut, and then it was to be pushed into the pelvic cavity. On Good Friday, seeing no improvement in the progress of the case, I, without any preparation, anæsthetised the animal with chloroform, and made an incision of 1½ ins. through the abdominal wall, about an inch to the left of the vaginam penis, and running parallel with it. I then passed my index finger and thumb into the abdominal cavity, and seized the rectum, which I withdrew through the abdominal opening. About six inches from the anus, I found that the organ* had doubled on itself—intussuscepted—for about ¾ in., and that cohesion of the peritoneal covering of the respective portions of it was firm, and required some little traction before it could be reduced. I afterwards passed two silk sutures through, from without inwards, the upper lip of the wound including the muscles and peritoneum, carrying them through the peritoneal coat of the bowel at its *free surface*, and where it was covered with organised exudate; the bowel remaining outside the abdominal cavity was now replaced into the abdomen, and the sutures were further carried through, within outwards, the peritoneum and muscles of the lower lip of the wound and then tied, allowing the free ends to hang outside the cutaneous incision, which was likewise sutured by two independent stitches. After sponging the external wound with a weak creolin solution, the animal was placed on a straw bed to recover from the effects of the chloroform. No solid food was allowed to be given. Skim milk was given for three times, and then a return to ordinary food was permitted. The four stitches were divided and removed on the following Thursday. For a fortnight after the operation the fæces were passed in worm-like or stringy casts and with some effort suggesting that the gut, at the part where the intussusception had taken place, was constricted. At the time of writing the animal is as well as ever it was in health, and since the operation has never been off its appetite. Beyond sponging the operation wound with creolin water immediately after the operation and removing the stitches on the following

* About 6 ins. of the rectum, just before the operation, was hanging outside the anus.

Thursday, no antiseptic precautions were observed, and no after treatment was carried out.

DILATATION OF THE ŒSOPHAGUS.

BY "HIRUDO."

THE following case, although, perhaps, it has not much to warrant its publication from the pathological or therapeutical side, yet it may not be without interest from an ethical or economic point of view.

An old woman who kept a dairy of six cows, purchased in the market a seven-year-old Irish cow. It did well for a week, feeding and milking to the satisfaction of the owner. I was then called to attend the animal. I found her slightly tympanitic, though not sufficiently so to cause great distress; there was inappetence, the secretion of milk had almost ceased, the cow was very dull, and grunted occasionally. On the left side of the neck, about its middle, was a large tumour the size of a child's head. It felt soft and doughy, and its manipulation was resented by the animal.

I learnt that on the previous day, after a hearty meal of crushed barley and chopped hay, the cow showed dulness, and that the swelling was noticed the next morning. I diagnosed the case to be one of dilatation of the œsophagus and proceeded to get rid of the contents of the sac. An ounce of liquor potassæ mixed with twelve ounces of oil was administered, some being returned with a good deal of coughing and spluttering along with some of the food from the pouch. I now kneaded the swelling vigorously, and after a quarter-of-an-hour's work the whole of the contents had disappeared. Thinking that, perhaps, I might be able to break down or at any rate enlarge the stricture which I felt sure existed, I attempted to pass a probang that was furnished with a small rounded end, but by no amount of patience and repeated efforts could the instrument be got past the dilated portion; although the cow was cast and many manœuvres tried, the attempt was at last given up as hopeless. Some advice had now to be given to the owner as to the future conduct of her new purchase, and as the woman was a poor widow who could ill afford to lose the price she had given for the cow, and as the dealer from whom it was bought had departed, I was fain to leave the moralities a little on the left hand and recommend sloppy bran for a few days and then the market.

A fortnight after, called to see a cow at the stables of an

hotel, owned by a limited liability company, and found the case to be one of dilatation of the œsophagus, and the subject of it my former patient. Liquor potassæ and oil and manipulation cleared the way; a few visits, plus the necessary powders, were given, and a regimen of soft food ordered.

Called to her twice at intervals of a fortnight afterwards. On the last occasion a message was given by the cowman that the manager would like to speak to me. The manager, having had the nature of the condition explained to him and the prognosis given, declared his intention of getting rid of the animal, to which I, of course, had to acquiesce, however much I might object on economic, to say nothing of moral grounds.

A short time afterwards, I was in a livery stable-keeper's yard attending a horse, and, as I was leaving, the proprietor said: "Do you attend cattle? (In some places, I may say, the veterinary surgeon is believed to doctor horses only.) I, of course, assured him that I was an adept in the treatment of their ailments. "Well, then, I wish you would look at a cow I have; old Bloodstick, the cow doctor, has been farrying her, and he is coming to-day to open a lump in her neck."

On entering the byre, I beheld my old friend, with about a couple of stone of bran in a sack tied round her neck by way of a poultice, to ripen the abscess one would suppose. The poultice being removed, the potash and oil and kneading soon caused the disappearance of the tumour.

This owner was a shrewd person. "Look here, master," said he; "you were so quick in knowing what was wrong with the cow and how to cure her, that I think you must have seen her before." Evasion was useless; I had to admit the soft impeachment, and, as a consequence, the hotel people had to refund a good sum.

I regret to have to relate that this time the cow was sold away from the district, and I had neither the advantage of again treating her nor of making a *post-mortem* examination.

THE EARLY DAYS OF ANÆSTHETICS IN VETERINARY SURGERY—A RETROSPECT.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

If we desire to possess an accurate idea of the progress made in any department of veterinary science, it will be necessary to refer back to the available records on the birth and development of the subject in question.

We have in the pages of the *Veterinarian* ample records of all the developments of veterinary science, which will ever render the volumes of this periodical of priceless value, to those who take an interest in all that pertains to their profession. A retrospect of the subject of anæsthetics we venture to hope may prove both interesting and useful, not indeed that we can boast of a vastly increased knowledge of the subject, or of its practical application in present-day veterinary surgery. Even in these early years we find editorials persistently urging the employment of anæsthetics by practitioners of veterinary surgery; at the present time similar appeals are frequently being made, but, strange to say, they are found written in graphic language in medical journals rather than in current veterinary literature.

Formerly when animals were placed under the influence of an anæsthetic, for surgical purposes as well as experimentally, it was usual for medical men to be present in order to gain some practical information as to the safe application of the agent to the human species. *Now*, as the result of information derived from the action of chloroform and ether on animals, and from practical experience of the effects of these agents on human beings, the employment of anæsthetics is general in medical science, while in veterinary science in many instances their adoption is regarded as something of a curiosity even by medical men.

It would prove useless to recapitulate the many reasons for this state of affairs, they have so frequently been alluded to; suffice it to say that although the number of practitioners who employ anæsthetics is gradually on the increase, still a large amount of prejudice will have to be overcome before we can claim a similar basis in this respect to human surgery. Inactivity and carelessness on the one hand, with a disregard for the sufferings which animals are forced to undergo during operations on the other hand, may be accepted among the causes which still keep this indispensable attribute to scientific surgery in the background. The earliest notice of those laudable attempts at the introduction of anæsthetics into veterinary surgery, we find in the *Veterinarian* of February, 1847. As might be expected, among the earliest workers in this subject was that pioneer in the cause of the humane treatment of animals, Edward Mayhew. It would be impossible for anyone to read either his communication or his works, without being struck by the genuine qualities of this earnest worker, and his untiring efforts for the advancement of his profession. His first article on the present subject was

entitled "On the Effects of Inhalation of the Fumes of Æther on Dogs and Cats, and, by the inference on the Horse, with the probable utility of such in Veterinary Medicine." In this communication he describes a number of experiments performed on dogs and cats of various ages, with regard to the inhalation of æther. The apparatus used was a Florence flask which contained the æther; to the neck of this a large bladder was secured; the animal's head was introduced into the latter, and a spirit-lamp applied to the flask.

As we should expect, all the experiments showed great preliminary excitement, marked interference with respiration, and the occurrence of loud cries with gasping. These were mistaken by the experimenter for symptoms of pain and distress, and as a result he made the following statements:—

"The results of these trials are not calculated to inspire any very sanguine hopes. We cannot tell whether the cries emitted are evidence of pain or not, but they are suggestive of agony to the listener, and without testimony to the contrary, must be regarded as indicative of suffering." . . . . "It is not likely to be of much practical utility. The comatose state is of short duration, and the ordinary operations occupy more time than can by it with safety be secured. There has yet no experiment that I know of been made to ascertain the action of the vapour on the horse, but I cannot anticipate that it will be found of much service in that animal."

In the same number the Editor of the *Veterinarian*, in his editorial remarks, draws special attention to Mayhew's experiments, and hopes that the American discovery shall be made to prove useful and available in veterinary practice. He, however, corrects Mayhew with reference to the cries emitted by the animals subjected to the influence of æther being regarded as evidence of pain, and brings forward the case of human beings in whom, under the influence of the drug, certain signs have been mistaken for evidence of consciousness, but when the operation was completed, it was proved by enquiry that they had not felt any pain.

The next article on the subject appears in March, 1847, also from the pen of Mayhew. In this he states that, having again tried the effect of æther on animals, and observed what appeared to his mind as symptoms of distress, he is determined to solve the mystery by testing the action of the drug on himself.

This was characteristic of the genuine humanity of the man, and showed how clearly he appreciated his duty towards the

lower animals, although, probably, he was regarded as something of a fanatic in those days on this subject; but in our present, so called civilised age, it is likely that similar views would be held concerning such convictions.

But Mayhew was not to be deterred by adverse criticism, and proved himself a diligent seeker after truth, and hence, in all his writings, although he boldly expresses his convictions, we find the element of fact to be largely present in them.

He describes his visit to a dentist, in order to have a sound wisdom tooth extracted while under the influence of æther, and graphically relates the amount of persuasion that was necessary before the dentist would undertake the operation. The process of inhalation is minutely described, and also the return to consciousness, when he learned that in consequence of his violent struggles it was impossible to extract the tooth, but that he remembered nothing of this. Next morning he subjects himself to a similar experiment, but with the same results, and learned that while under the influence of the drug he had been even more violent than on the previous day.

He concludes that the effects resemble those of intoxication by alcohol, but that the action of æther is more speedy, and that the cerebrum does not lose its activity, as evidenced by dreaming which occurs.

He concludes also that motion is not necessarily lost, as many have had it excited, and that it is the first regained, though some time elapses before it is perfectly restored to the control of volition.

He suggests that some combination is desirable in order to overcome those actions of the drug which are not desirable, and finally, in that language so characteristic of him, says: "A problem is given which it is the duty of science to work out, not a wonder created for professors to amuse the curious with. . . . . Before this discovery all others appear to me but small. I wonder and admire, but I would not, therefore, think all had been accomplished and nothing remained to do. Mighty deeds should be the excitants to activity, and what America has produced, England should strive to perfect."

In an Editorial in the same number of the *Veterinarian* Mr. Percivall gives an excellent *resumé* of observations and experiments with æther in animals, and states: "So far as experiments have yet gone, there is good reason to look forward to ætherization being both available and useful to veterinary surgeons in their practice."

Some experiments are then recorded by Mr. Barrow, of Newmarket, made on dogs, a thoroughbred two-year-old filly, and on donkeys.

Different operations were performed in a very satisfactory manner under the influence of æther, the anæsthetic being administered to the animals while standing and anæsthesia rapidly induced.

From *Bell's Life in London* a notice is extracted with reference to the operation of neurotomy having been performed under the influence of æther by Mr. Spooner, Royal Veterinary College, and also the amputation of a sheep's leg at the same institution by Mr. Simonds, for incurable disease of the hock-joint.

In both these cases the results were deemed eminently satisfactory.

In April, 1847, we have a case reported by Mr. Dobson, V.S., of amputation of a cow's leg, under the influence of æther.

An apparatus was employed similar to that used by surgeons, but with a tube extending to each nostril.

The operation was performed in the presence of several medical men, the animal taking seventeen minutes to become insensible to pain, and using four ounces of æther. No symptoms of pain were evinced until the integuments were being drawn together.

In the same month Messrs. Henderson and Cherry contribute an article on the effects of æther, in which they show by experiments that the administration of this drug to horses is not so easy or so safe as described by the professors at the veterinary college.

The administration was performed with the animals in the standing position, and in the last experiment noted the apparatus used was made so as to exclude atmospheric air.

Ten ounces of the drug were placed in the receptacle, the breathing became very laboured, and in six minutes the animal was dead; the autopsy revealing rupture of the aorta and rupture of the diaphragm.

But in all these experiments, as pointed out by the performers, there was no means of regulating the vapour and the rapidity of inhalation; and they very justly conclude that these are important points requiring attention. They overlooked, however, the presence of asphyxia in the fatal experiment, and its influence in producing violent respiratory movements, to which they attribute the lesions that occurred.

These points, even in the present day, require attention, as there are some practitioners who imagine that in order to produce anæsthesia in the horse it is necessary to induce a condition of semi-asphyxia, by depriving him of a proper supply of air.

Such an idea is irrational, both in theory and in practice, and will account for the deaths which occur during anæsthesia in this animal, although judging from published statistics they must be rarely met with.

(*To be continued.*)

THE *SCOTSMAN* ON THE BOARD OF AGRICULTURE AND THE VETERINARY PROFESSION.

THE "profession" will be glad to know that the *Scotsman*, the most influential newspaper in Scotland, has taken up the cudgels in defence of our rights. The following article appeared in the *Scotsman* of 22nd ult. :—

"On Monday night Mr. Herbert Gardner gave, in the House of Commons, what he intended to be accepted as his final decision with regard to certain changes that have been made in an important division of his Department. As these changes have given rise to much adverse criticism, and as Mr. Gardner in his reply refused to enter into the merits of the question, but merely declared that he was satisfied that they were necessary in the interests of the public service, and that he neither could nor would make any other arrangements, it is desirable that attention should be called to the matter, as it has an important bearing on agricultural interests. The changes referred to were made on the retirement of Professor Brown from the direction of the Veterinary Department of the Board of Agriculture. That Department was then under Professor Brown as Director. He was assisted by two Veterinary Inspectors, Mr. A. C. Cope and Mr. W. Duguid, and a chief travelling Inspector, Major Tennant. On the retirement of Professor Brown in 1893, the Department was completely re-organised. Its duties remained the same, but the title was changed from that of the Veterinary Department to that of the "Animals" Department. And with this change in title there was a corresponding change in its constitution. No new Director was appointed to take the place of Professor Brown, and the relative position of the executive and scientific officers was entirely reversed. Nominally the Department was split into two halves, one presided over by Mr. Cope and the other by Major Tennant; but their equality is unreal, for not only is there sufficient difference of salary to give the executive officer precedence over the scientific, but his superiority is further recognised by the fact that he is described as the "Principal" of the Animals Division. Mr. Cope is relegated to a part of the Department, while Major Tennant is provided with an office extending over the whole. The change is justified by the Board on the ground that recent legislation has largely increased the executive work of the Board, in regard to which it has always been the policy of the Board to look for assistance to local veterinary practitioners as much as possible, and to avoid any unnecessary concentration of professional work in official hands. It is also urged in their defence that, owing to the great advances made in veterinary science and in methods of pathological observation, it is desirable that the professional officers of the Board should be placed in the best position to take full advantage of these advances, and be enabled themselves to carry on those original investigations

which have been the basis of the operations undertaken against disease in the past, but which have in recent years been interrupted by the pressure of duties of a non-professional character.

"The object which the Board had before them in making the rearrangement was, according to their own statement, to afford to the scientific members of the division ampler opportunities for research. This they have done by placing them in a subordinate position, and depriving them of all control over the executive work of the Department. They have at the same time reduced their number from three to two. Even if it be granted that these changes would have the effect of giving the scientific members more time for original investigation, that fact would not be in itself a sufficient justification of them. They must be regarded from the point of view of their effect upon the whole operations of the Department. They have produced a radical change in its constitution. Formerly it was a Veterinary Department in fact as well as in name. It is that no longer, and the change has been recognised by a change of name. Yet, as has been already said, its duties remain unaltered. The Department was specially created for and solely concerned with the suppression of disease among live stock, and in almost every detail of its operations, whether in dealing with outbreaks of disease, the methods of spread, or the means of suppression, veterinary knowledge is constantly required. That a Department, whose work is of this nature, should be under the control of a veterinary expert, and that every effort should be made to make the scientific element predominant on its administrative staff, would appear to be only natural. Yet Mr. Gardner has discarded such a system in favour of the services of a number of half-pay navy and army officers, who may have the necessary qualifications for able administrative officials, but who are entirely destitute of the technical knowledge required, and have either to avail themselves of the assistance of local practitioners, or, as is often the case, display in the performance of their work an ignorance which serves only to amuse those whom they are sent to advise, and to bring the Department into contempt.

"It is upwards of two years since these changes were introduced, and their effect is already visible in the failure of the Board to deal with the recent outbreak of swine fever. Success accompanied the work of suppressing pleuro-pneumonia in 1893, when undertaken under a scientific director, but failure has attended the work under a mere executive principal. A committee of the Royal College of Veterinary Surgeons appointed to report on the question point out that during the stamping-out of pleuro-pneumonia the travelling inspector was entrusted with the inquiry into the origin and possible spread of each outbreak. In the attempted suppression of swine fever, he is left entirely to his own devices, not only in tracing out the origin and spread of disease, but in determining whether infected herds should be slaughtered or isolated, or partly slaughtered and partly isolated. 'This exetnsion of the duties of laymen to such technical work as the investigation of pathological problems,' says the report, 'or to the very difficult duty of deciding what morbid conditions should justify slaughter, or where isolation should be adopted, or to the important question of selecting what carcases should be buried and what sold as human food, appears to your committee to be altogether indefensible. The extension of the duties of the lay inspectors to work for which they had not been specially trained is, they maintain, one cause of the extremely slow progress made in arresting the spread of swine fever, and is a departure from the older and sounder practice under which more than one contagious disease was stamped out. 'It is,' they say, 'a change detrimental to the stockowner and to the taxpayer, and one which has not added to the efficiency of the Board of Agriculture.' By the veterinary profession the change is much resented. They have always felt proud of the work done by

veterinarians for the State from the stamping out of the cattle plague in 1866 to the practical suppression of pleuro-pneumonia in 1893. They also appreciated the honour of having one of their members as the recognised head of the Department which is entrusted with the control of disease amongst live stock, and they are unwilling to be relegated to an entirely subordinate position. If the public and those concerned with agriculture had any assurance that under the new arrangement the work of the Department would be carried on as efficiently as before, they might be inclined to disregard the feelings of the veterinary profession. But they have not this assurance. It is impossible to believe that the work of dealing with disease—a work which, in the present depressed condition of agriculture—can be as effectually carried on under the new arrangements to which Mr. Gardner adheres with such obstinate determination, as when they were directed by a veterinarian of experience. The Department can ill afford to be weakened on the scientific side, yet such has been the effect of the changes introduced in 1893."

ROYAL COMMISSION ON TUBERCULOSIS.

Influence upon Animals of Food of Tuberculous Origin: Influence upon Man.

14. The primary object of the Commission, to learn the "effect of Food derived from Tuberculous Animals upon Human Health," was obviously one that could not be attained by direct experiment upon human beings. Yet it was upon this question that there had been least accord among the witnesses, though they did agree in their assurances that there was no valid evidence on the point to be had. The Commission undertook, therefore, these inquiries as to the effect of tuberculous food upon the health of lower animals, in the expectation of obtaining information applicable to the case of the human subject.

15. Dr. Martin selected for his experimental research a variety of animals which differed in their customary food material: pigs, guinea-pigs, and rabbits. The animals were fed with their usual foods, with the addition of some material (sometimes meat—much in the sense that a butcher might speak of meat,—sometimes milk, but always uncooked) derived from a tuberculous animal. No particular examination for actual tubercle in the food material was made in the experiments now being recorded, but some care was taken to avoid any obvious mass of tubercle.

16. Of each kind of animal thus fed, a certain percentage was found to become tuberculous; of pigs, 36 per cent. (5 out of 14); of guinea-pigs, 16 per cent. (24 out of 145); of rabbits, 15 per cent. (2 out of 13).

17. The experiment comprised also a number of animals kept under the same conditions as the rest (the pigs being members of the same litter), and only differing from the other animals of the experiment by receiving no material from a tuberculous animal in their food. Of these "control" animals (numbering 5 pigs, 203 guinea-pigs, and 8 rabbits), none became tuberculous.

18. We cannot but regard these differential experiments as showing a danger to a healthy animal from the introduction into its food of material taken from a tuberculous animal.

19. Further, Dr. Martin made experiments, not only with feeding-material "derived from tuberculous animals," but with material containing tuberculous matter recognised as such, and purposely added to the food of the experimental animal. This was done in the case of 1 pig, 8 guinea-pigs, and 10 calves; and of these, the pig, 6 guinea-pigs, and 8 calves became tuberculous. In these experiments the tuberculous matter had been taken sometimes from

a bovine, sometimes from a human source, and it is noteworthy that each animal received only a single dose of it.

20. Other experiments with manifestly tuberculous matter are recorded by Dr. Woodhead among a number of investigations made in the course of his own inquiry undertaken for us. He found this matter, given (uncooked) to various animals, gave rise to tuberculoos disease in all the pigs (7) and all the cats (5) that received it, aad in 50 guinea-pigs out of 76.

21. These more particular experiments by Drs. Martin and Woodhead, made with matter that had been identified as tuberculous, add much force to the inference derived from Dr. Martin's more general experience. They indicate, in the material used in feeding, the element that is dangerous to the healthy animals which have been fed.

22. We cannot refuse to apply, and we do not hesitate to apply, to the case of the human subject the evidence thus obtained from a variety of animals that differ widely in their habits of feeding—herbivora, carnivora, omnivora. As regards man, we must believe—and here we find ourselves agreeing with the majority of those who gave evidence before us—that any person who takes tuberculous matter into the body as food, incurs some risk of acquiring tuberculous disease. By "tuberculous matter," we mean here, of course, that which is capable of giving rise to tuberculosis in lower animals. This matter may be found in parts of animals affected by the disease. It is known to the naked eye by some well marked though various characters, and microscopically by the all but certain discovery of characteristic bacilli—the bacilli of tubercle.

23. It is this same matter, however,—known by naked eye characters that are very closely the same in man and in animals, and by microscopical characters that are all but identical,—that gives rise to tuberculosis in the human subject. And we find the present to be a convenient occasion for stating explicitly that we regard the disease as being the same disease in man and in the food-animals, no matter though there are differences in the one and the other in their manifestations of the disease ; and that we consider the bacilli of tubercle to form an integral part of the disease in each, and (whatever be its origin) to be transmissible from man to animals, and from animals to animals. Of such transmissions there exists a quantity of evidence, altogether conclusive, derived from experiment. It is with the transmission of the disease to man by the ingestion of animal food that the present Commission is concerned.

24. The effects upon human health here spoken of as "tuberculous disease" are known to be different in some respects from the manifestations of tubercle in lower animals ; and these differ again in one and another lower animal. There are also abundant differences in the manifestations of tubercle in the human body ; differences no less than those exhibited by tubercular phthisis, tabes mesenterica, tubercular meningitis, and scrofula. We recognise in these different manifestations a varying amount of tuberculous matter or activity of tubercle-bacilli ; the influence of the lymphatic system : the invasion of different organs, and so forth, together with a variety in the avenue by which tuberculous matter has been received into the human body, whether by the alimentary or by the respiratory system, or by other ways.

25. Again, as we find no distinction in nature between the various manifestations of tubercle in the human subject, so also we find no distinction in nature between the tuberculous diseases of man that have had their origin in tuberculous food and the tuberculous diseases of man that have been otherwise acquired. We know, indeed, of some of the tuberculous diseases above mentioned, especially those of the intestinal tract, being almost peculiar to children ; and probably the proportion of tuberculous persons contracting their disease through food is larger among children than among their seniors.

We were not surprised to find that there is, at present, little information of this sort to be had; it is hardly to be expected until search has been made for a relation between tuberculous disease in man and tuberculous food taken by man. But in the future we look to health officers and hospital physicians for observations of importance on these points; though we are fully sensible of the difficulties that must attend any attempt to learn the origin of complaints of which the course is so slow as that of most tuberculous diseases.

Prevalence of Tuberculosis in Food-Animals: Recognition of it.

26. The risk to the community of acquiring tuberculous disease by the ingestion of food derived from tuberculous animals must needs depend in great measure on the extent to which such food is consumed by the community; and one food-animal is found to differ very much from another animal in the degree to which it habitually furnishes tuberculous food. Thus, from the excellent records of the Copenhagen slaughter-houses, the following totals for the four years, 1890–3 inclusive, have been derived:—

Of 132,294 oxen and cows, 23,305 showed evidences of tubercle.
Of 8,292 swine, 1,272 showed evidences of tubercle.
Of 185,765 calves, 369 showed evidences of tubercle.
Of 337,014 sheep, one only showed evidences of tubercle.

And the animals range themselves, at the time they are presented to the butcher, in the above order according to the frequency of tuberculosis in each, the percentage of tuberculous animals being here 17·7 for oxen and cows, 15·3 for swine, 0·2 for calves, and 0·0003 only among sheep.

27. From the Berlin slaughter-houses, the following is the report for the year 1892–3:—

Of 142,874 oxen and cows, 21,603 showed evidences of tuberculosis, and 1,609 were condemned on this account.
Of 518,073 swine, 7,055 showed evidences of tuberculosis, and 1,191 were condemned on this account.
Of 108,348 calves, 125 showed evidences of tuberculosis, and 62 were condemned on this account.
Of 355,949 sheep, 15 showed evidences of tuberculosis, and 12 were condemned on this account.

28. The percentages of tuberculous animals, therefore, were at Berlin slaughter-houses, 15·1 for oxen and cows, 1·55 for swine, 0·11 for calves, and 0·004 only for sheep; and the percentages of the several kinds of animals condemned on account of tuberculosis were, for cows and oxen, 1·26; for swine, 0·23; for calves, 0·06; and for sheep, 0·003.

29. There do not exist for the United Kingdom any records with which these can be compared. At Copenhagen and Berlin all the meat furnished to the towns is submitted to the inspection of experts. But we have reason to think that the facts about tuberculous animals would exhibit a broad resemblance to the foregoing, if such records could be obtained; not more different in degree, that is, than the difference seen between the Copenhagen and Berlin records, or that would be explained by variations in the practice of dealing with food-animals in one and another country. Such few data as are to be had for the United Kingdom confirm this view. Three hundred milch cows had to be slaughtered in Edinburgh in 1890 on account of the appearance of epidemic pleuro-pneumonia there, and their carcases were examined as to the presence or absence of tuberculous matter in them. Of the three hundred, 120, or 40 per cent., were found to be tuberculous, the percentage varying between 12 and 83, according as they came from one or another cowhouse. In Edinburgh, again, out of 27,769 cattle brought for slaughter to the public abattoir in 1890, 179, or 0·65 per cent., were condemned as being tuberculous, this percentage having risen from 0·16 in 1887,

when the system of examining for tubercle was begun there. Five pigs were condemned in 1890 out of 4,973, and no calves out of 5,160; no record is given about sheep.*

30. It follows from these considerations that tuberculosis in cattle has had particular interest for our inquiry. "Cattle" (full-grown) are seen to contrast very remarkably, with "Calves" in all these records. And it needs but a glance at the experience of Edinburgh to show that cows probably contribute far more than oxen to the record of tuberculosis in cattle. Indeed the researches made for us as to food of tuberculous origin and its infectivity to lower animals, and as to the influence of cooking processes in destroying the infectivity of tubercle, have all been made with food derived from tuberculous cows; for the good reason that, while the experience of this food could without much difficulty be applied to food from other animals, food derived from cows comprises, not only a portion of the meat, but practically the whole of the milk (if we except mother's milk) of the human community.

31. The above-recorded experiences of tubercle in various food-animals have been derived from the slaughter-house. But it were greatly to be desired that facts as to the presence of tuberculous disease should be procurable for animals during their life-time; they are wanted for the purpose, perhaps, of preventing the perpetuation of diseased stock, but certainly for a purpose of even more immediate concern for our Commission: in order that tuberculous cows should not furnish tuberculous milk to human consumers.

32. Professor McFadyean has reported to us about the means of recognising tuberculous disease in animals during life. He has searched the literature of the subject and has adduced a number of experimental observations of his own. Besides ordinary clinical methods of examination, he records attempts to discover, by various procedures, evidence of tubercle in the bodies of living animals which presently, *post-mortem*, were found affected with tubercle; and he arrives at the disquieting result that extensive tuberculous disease may exist in animals that appear, to his tests, to be in perfectly good health.

33. He reports on the injection of the substance (itself a derivate from tubercle bacilli) named "tuberculin." This substance was discovered by Dr. Koch, of Berlin, and was first advocated for the cure of tubercular patients. It was afterwards proposed to use the substance for the detection of tuberculosis in cattle, and some promising results from its use as a diagnostic are on record. These, however, were not confirmed by experimental trials made for the English Government and recorded in the report of the Veterinary Department for 1890.

34. Professor McFadyean finds, in his own hands, that this test substance has frequently led to erroneous inferences. He records, as the total outcome of his experiments, that he received wrong indications from tuberculin, about the presence or absence of tubercle in cattle, in the case of 24 animals out of 75; nevertheless he sums up his report by the statement:—"I have no hesitation in saying that, taking full account of its imperfections, tuberculin is the most valuable means of diagnosis in tuberculosis that we possess." And we understand that, since the time of Professor McFadyean's experiments, the method of using tuberculin as a test has been much improved, and that it is now regarded as affording more trustworthy indications for diagnosis.

35. Any want of means for recognising tuberculous disease in cows during life would appear, at first sight, to compromise the discovery of what is dangerous to human consumers in the milk of tuberculous cows, but it will presently be seen, in respect of this milk, that other considerations can be

* The total number of the animals *observed to be tuberculous* is not recorded, The above figures from the Edinburgh abattoir relate to animals *condemned* on that account.

taken into account, so that the diagnosis of tuberculosis in cows is not to be confounded with detection of tubercle in milk.

Circumstances determining danger to men from meat and milk of tuberculous organs:—(a.) Danger from Meat.

36. We regard it then as established that any person who takes tuberculous matter into the body as food incurs risk of acquiring tuberculous disease, and we know that this matter may be found in parts of animals affected by the disease. It is therefore of the first importance to us to note what parts of a tuberculous animal are liable to contain this tuberculous matter, having well-marked characters of its own, and among them the bacilli, which form an integral part of the disease. From this view point, we would report separately upon *Meat* and *Milk*, derived from these animals, and begin our consideration with *Meat.*

37. We find it necessary, in our study of the "Circumstances and Conditions with regard to Tuberculosis in the Animal," which endanger human health, to include in our definition of *Meat* the various parts of the tuberculous food-animal, and to assume a certain acquaintance with the actual presence of tubercle in the several parts. When, on the other hand, we wish to speak of the customary "joint" of the butcher, and to exclude organs and other tissues, we refer to it as *meat substance.* We do not propose to consider, except incidentally, carcases from which the organs have been removed in such wise that the condition of them could not be known to us.

38. We have now to point out the very great difference in one and another part of a tuberculous animal in the amount of tuberculous matter contained in the meat. This matter is found principally in the organs of the animals; as a rule, most abundantly in the lungs, lymphatic glands, serous membranes, but often in the liver, spleen, kidneys, intestines, and other structures. These organs are usually removed by the butcher in "dressing" the carcase, though some of them may, intentionally or not, be left. To a practised eye, it is hardly possible that tuberculous matter in these organs can escape detection, and the importance of its presence there will soon be apparent.

39. For, in the tissues which go to form the butcher's "joint" the material of tubercle is not often found, even where the organs exhibit very advanced or generalised tuberculosis; indeed, in muscle and muscle juice, it is very seldom that tubercle bacilli are to be met with; perhaps they are somewhat more often to be discovered in bone, or in some small lymphatic gland embedded in intermuscular fat. Yet there is always a difficulty in making sure of the absence of tuberculous matter from any part of a carcase that shows evidence of tubercle elsewhere.

40. In Dr. Martin's experiments for the detection of tuberculous matter three kinds of tests were employed; first, minute examination of the part for tubercle, with the aid of the microscope to discover tubercle bacilli; secondly, feeding susceptible animals—test animals—with suspected matter; and, thirdly, introducing into the bodies of test animals some of the suspected matter by way of inoculation—a more delicate test than the process of feeding.

41. Applying these tests to the meat substance of 21 cows known to be tuberculous in one or another degree, he could not get visible evidence of tubercle except in two instances, and there it was of very small amount. He records the results of his other tests as follows:—"Of eight cows (mild tuberculosis), the meat of one gave positive results in one animal from inoculation; none by feeding. Of eight cows (moderate tuberculosis), the meat of three gave positive results in four animals from inoculation; none by feeding. Of five cows (generalised tuberculosis), four gave positive results either by inoculation or by feeding," one only out of the four appearing to answer to both tests [section 104, p. 31].

42. The animals which had yielded affirmative results to his tests of minute examination were not among the last five; they were in the group of cows with "moderate tuberculosis," and had given no result by feeding test-animals with meat from their carcases, though meat from one or two had, upon inoculation, responded to the test.

43. These were not the results to be expected from Dr. Martin's experiments, if he were really using muscular tissue (with its usual concomitants forming "meat substance") containing or not containing tuberculous matter among the fibres. He would not have expected to find himself repeatedly giving rise to tuberculous disease by the use of material in which no tubercle could be detected by his ocular tests. He might have expected, on the other hand, a more uniform affirmative result when he was experimenting with the two cows whose meat had shown to his eye, and his microscope, evidence of tuberculous matter; though he might have explained a failure to get such results by the small amount of tubercle discovered there. And certainly he did not expect to get, if he was using only such tuberculous material as was present in the muscular tissue of his 21 cows, the egregious irregularities which he observed in his feeding an inoculation experiments. He was dealing with a quantity of tuberculous matter supplied to him—not, he reasoned, from the muscular tissues that he had proposed to investigate, but somehow from the general carcase of the cow, and abundant in the matters he was inoculating just as it happened to be abundant in the general carcase; and insufficient in amount, until he came to the maximum amount in the general carcase, to re-act to the test of feeding, though (with smaller amounts in the carcase) he had sometimes got an answer to the more delicate test of inoculation.

44. Dr. Martin tried in vain to explain these unexpected results by a hypothesis that he had overlooked some minute tubercles in the small portions of meat that had been used by him in his feeding and inoculation experiments. Even this hypothesis would not account for all the observed facts. And he presently saw another consideration, of a different nature, which he might not have sufficiently taken into his account: the operations, namely, of the slaughterer and butcher.

45. Dr. Martin was not, at this stage of his researches, experimenting broadly about things in general taken from the carcase of an animal after slaughter, but he was trying to learn the distribution of tubercle in the body of the animal, in the hope of adding to our knowledge of the conditions which might give to meat the quality of injuring the consumer of the meat. Still, he was dealing with meat, as meat would be sold by the butcher. He had already sought, by discriminating between "trimmed" and "untrimmed" meat, to estimate the risk of including in his own specimens of meat the stuff which, for little else than for the sake of tidiness, the butcher removes in preparing his joint for sale, and that consist *inter alia* of bits of gland and serous membranes. But though he had been at some pains to secure that this trimming was done with efficiency, there proved to be no constant line between the trimmed and the untrimmed meat in its effect upon test animals.

46. He now came to see a real and considerable danger to the meat, of the same nature as that which he had previously sought to estimate when he was careful about the trimming of meat—a danger that was somewhat less obvious, but would be quite as real. This was, the probability of the meat becoming contaminated from the actual tuberculous lesions, present in other parts of the carcase, and conveyed from thence to the proper meat-substance by the hands, knives, and cloths of the butcher during the processes of flaying and dressing. This was a danger that would doubtless increase along with increased abundance of the material of tubercle in the carcase. "The

greater the amount of tubercle there is in the cow,* the more likely is the sticky caseous matter to get smeared over the carcase" [section 108, p. 32]; and much that was inexplicable in the results of feeding and inoculation of test animals would be rendered intelligible. Dr. Martin writes:—

"If we imagine that the meat gets contaminated accidentally in this way, it is easy to explain the irregularity of the results:—(1) how, for example, in cases of mild tuberculosis of the cow, the danger of contamination is not great, and therefore the meat does not get smeared to any extent during removal; so that no positive results were obtained by feeding, and only one positive result by inoculation, and this a case of local tuberculosis, showing a small dose; (2) how in cases of moderate tuberculosis, where chiefly the lungs and lymphatic glands in the thorax are affected (and so may be removed entire without incision of a tuberculous lesion), the meat, as in cases of mild tuberculosis, would not become much contaminated, and thus did not produce tuberculosis by feeding; and how in these cases the knife is more likely, accidentally, to incise a tuberculous lesion than in cases of mild tuberculosis, and that therefore the number of coses of positive inoculation is greater. . . ."

"With generalised tuberculosis of the cow this danger would increase, since so many parts of the body are affected with the disease, so that in such cases we meet for the first time with positive results from feeding, but not uniformly positive. . . ."

"Taking all the results together, the method of removal of the meat, the results of inoculation and of feeding, one is driven to the conclusion that when meat is infective it commonly acquires its properties by being accidentally contaminated with tuberculous material during its removal from the carcase. This conclusion, it is evident, is one of great practical importance, bearing directly on the question of the condemnation of the meat of tuberculous cattle for human consumption. And it is evident, also, that the infective properties of meat might vary with different series of experiments; . . . the result depends on the care taken in guarding against contamination more than on anything else. The conclusion arrived at in part explains the extremely divergent results obtained by previous observers" [sections 110, 111, and 112, pp. 32 and 33].

47. The observations by Dr. Martin cannot altogether dispose of his hypothesis, that the unexpected affirmative results obtained by his feeding and inoculating experiments may have been due to the presence of unobserved tuberculous matter in the meat substance, possibly in the actual muscular tissue; but they certainly show another and more obvious way in which these results may have been brought about. To have demonstrated this intrinsic way of rendering dangerous the meat substance of tuberculous animals, is to destroy all evidence that might otherwise have been obtained respecting the wholesomeness or unwholesomeness of the proper meat-substance towards his test-animals.

We note, in passing, that this method of endangering the meat substance could not have been detected upon carcases from which the organs, together with any "grapy" deposit, had been removed. And it is pertinent to observe, in connection with a contamination so effected, that this extrinsic danger to harmless meat (or to meat that was, for all that is shown to the contrary, harmless), might just as well be encountered by meat from another animal (whether pig, sheep, or calf, ox or cow) that was perfectly free from tubercle, but only had happened to be the next animal brought to the same slaughterer.

48. Having regard to Dr. Martin's invariable failure to produce tubercular disease by feeding (though he sometimes did succeed by inoculating) test

* Dr. Martin's tuberculous cattle had habitually been obtained from cow-houses.

animals with the meat taken by him from cows with mild or moderate tuberculosis, and admitting his explanation of an affirmative result, sometimes seen when meat was being taken from cattle with advanced or generalized tubercle, we are prepared to believe with him that, if sufficient discrimination and care were exercised in taking meat from tuberculous cattle, a great deal of meat from them might, without danger, be consumed by the community. The practice of public abattoirs on the Continent appears to be founded on the same belief.

49. Dr. Martin, having shown that tuberculous material may be thus distributed through the carcase of an animal; and regarding the disease as being, at its early stages, a local disease, and its material as being, in the first instance, limited to the neighbourhood of the place at which it had originally entered the body, is ready to formulate certain precautions that could be taken for reducing to a minimum, so far as present knowledge extends, the danger to human consumers of meat by their partaking of tuberculous meat. He would advocate, as a principle, that the operations of slaughter and dressing should be done under skilled supervision, with the object of securing the removal and destruction of every part of a carcase that contained any tubercle whatever, and also the destruction of the whole carcase in cases where the animal was found to have advanced or generalized tuberculosis. He indicates, for the assistance of any meat-inspector, various evidences of the disease having reached the more serious stage. For the rest, Dr. Martin sees no objection to the sale of meat-substance from carcases which have shown only localized tuberculosis, and from which every particle of tubercle has been skilfully removed; provided always, that, in every subsequent process of preparing the meat for sale, due care be taken to guard the saleable portions from contamination by tuberculous matter.

50. Reporting upon his 21 tuberculous cows, from his present standpoint, Dr. Martin tells us that, if his ideal precautions had been in force, the meat of *nine* cows would have been condemned, and the meat of the other *twelve* might have been sold.

51. It is hardly necessary to point out that little evidence about the more serious degrees of tuberculosis in the animal would be discoverable in carcases from which the organs had been removed; and that this is habitually the case with so-called "dead meat," whether English or foreign. Still, there are indications in such a carcase, to the eye of an experienced inspector, of the more dangerous forms of tuberculosis having existed in the animal.

52. Dr. Martin's suggestions are, in our judgment, based on well-ascertained pathological facts. We have no doubt that the supervision which he recommends would tend, in an important measure, to the security of the public. But we are well aware that the difficulties of such supervision are so great, that many years must elapse before any measure of an effectual kind can be carried into practice.

53. In the meantime, we venture to express our confidence that the precise information which has now been gained as to the nature, extent, and limitation of the risks which arise from the consuming of the meat of tuberculous animals, may be of value to those who have concern with our meat supplies, in guiding them to the adoption of such precautions as may, under present conditions, lie within their power.

(*b.*) *Circumstances determining danger from Milk.*

54. Proceeding to consider the *Milk* of tuberculous animals, our problem about the presence or absence of tuberculous matter becomes simpler. We are not, then, examining solid structures about which tuberculous matter, when once admitted in the body, has to travel by a slow growth of its bacilli among the solids, or by tardy convection along microscopic lymph channels;

but we have to do with a secretory apparatus, giving off quantities of a liquid perfectly adapted for the maintenance of tubercle bacilli, and specially adapted for their transmission to other soils. Dr. Martin's tests are now far more easy of application; moreover, the complications introduced by operations of slaughtering and dressing do not here exist; so that the question of the conditions for any prejudicial effect resulting from the use of *Milk* from tuberculous cows, can be determined with correspondingly greater ease and accuracy.

55. Dr. Martin made experimental observations on milk taken (with an abundance of care) from 17 cows; from 15 suffering, as he judged—and as was afterwards proved *post-mortem*—from tuberculous disease; and also on that taken from two other cows which were found, after slaughter, to have no tubercle, but to be suffering under some other complaint.

56. He gives the following account of nine cows out of the total 17, and his account is of wider interest than for the experiments under our immediate consideration:—

"During the course of the investigation, nine cows with disease of the udder were purchased by the Commission. . . . They were all purchased with the idea that the disease of the udder was tuberculosis, the diagnosis being made by a veterinary surgeon, and on the ground that the cow was tuberculous, from the wasting or cough, or was probably tuberculous, and that the udder was diseased, and therefore tuberculous. Of the four cows in which the udder disease proved to be non-tuberculous, two showed tuberculosis of the internal organs, and two showed no tuberculosis anywhere, one of these latter having a sub-diaphragmatic abscess, the other, a thin cow, with the first calf, showing no disease anywhere in the body, except the udder. If reliance be placed, therefore, on the general condition of the cow, and on the physical examination of the udder, an accurate diagnosis of tubercular disease of the udder is not possible." [Section 159, pp. 41 and 42.]

57. The milk yielded by the seventeen cows under observation, was found, in the case of some, to have the characters of normal milk, in the case of others, to have various abnormal characters. Dr. Martin could not trust, for evidence of the presence or absence of tuberculous matter in the milk, to any indications obtained from the appearance of the milk, or from his chemical examination of the milk.

58. Of his 15 tuberculous cows, eight had their udders in a healthy condition; two (as above-recorded) had udder disease, which was proved, after slaughter, not to be tuberculous; and the remaining five had udder disease, proved *post-mortem* to be tuberculous in nature.

59. Applying to the milk, furnished by the seventeen cows, the three tests before described as being available for the detection of tuberculous matter, Dr. Martin obtained the following results from his different groups of cows:—

(*a.*) The eight tuberculous cows which had healthy udders, showed him no tubercle bacilli whatever in the milk of any one of them; 41 test animals fed with their milk, remained perfectly free from tuberculous disease; 28 test animals inoculated with their milk, also remained quite free from tuberculous disease.

(*b.*) The two tuberculous cows which had udder disease, found *post-mortem* not to be tuberculous in nature, showed him no tubercle bacilli in their milk. Three test animals, fed with their milk, and 14 other test animals, inoculated with their milk, remained, all of them, perfectly free from tuberculous disease.

(*c.*) Of the five tuberculous cows which had udder disease, found *post-mortem* to be of tuberculous nature, three showed him tubercle bacilli in their milk. He could not find tubercle bacilli in the milk of the other two. With milk from the three cows, 15 test animals were

fed, with the result of producing tuberculosis in every one of them. With milk from one or other of the same three cows, 13 test animals were inoculated, with the result of all 13 acquiring tuberculous disease. The milk of the fourth cow (one of those which had not shown tubercle bacilli) was used to feed 10 test animals, and produced tuberculosis in four of them. Inoculated into six test animals, all of them became tuberculous. The milk of the fifth cow (in which, also, no tubercle bacilli had been seen), was used to feed two animals, but without result. Yet, when it was used to inoculate two other animals, both of them acquired tuberculous disease.

(*d.*) It remains to note these tests as applied to the milk of the two cows found after slaughter to be suffering under another disease, but not tubercle. The results were:—no tubercle bacilli found in the milk of these cows; inoculated into 17 test animals, it did not produce tuberculosis in any one of them; milk from one of the cows, however, in some test animals gave rise to various abscesses.

60. According to our experience, then, the condition required for ensuring to the milk of tuberculous cows the ability to produce tuberculosis in the consumers of their milk, is *tuberculous disease of the cow affecting the udder.** It should be noted that this affection of the udder is not peculiar to tuberculosis in an advanced stage, but may be found also in mild cases.

61. Further, with reference to this disease, Dr. Martin writes: "The milk of cows with tuberculosis of the udder possesses a virulence which can only be described as extraordinary. All the animals inoculated showed tuberculosis in its most rapid form" [section 148, p. 39]. Dr. Woodhead, investigating, for his own purposes, the effects of unboiled milk, speaks in similar terms of this virulence of milk derived from tuberculous udders and inoculated into test animals.—The two observers had occasion to use milk from a cow that had tuberculous disease in one quarter only of the udder; and they found the milk from the other three quarters to be perfectly harmless on inoculation; but the mixed milk taken from the four teats was to all appearance just as virulent as the milk from the diseased quarter.—Butter, skimmed-milk, butter-milk, obtained from the milk of a cow having tuberculous udder (by the usual processes, but with complete precautions against accidental contamination of articles used in the manufacture) all contained tuberculous matter actively injurious to test animals.

62. And not only this virulence, but the rapidity with which milk can obtain its harmful quality, attracted Dr. Woodhead's attention. He reports, "A most important point is that the spread of tubercle in the udder goes on with most alarming rapidity; this I was able to observe in the cows constantly under observation, but I have also noticed on several occasions during the interval between fortnightly inspections carried on along with a veterinary surgeon, that the disease has become distinctly developed. It may be, of course, that the early evidence has been overlooked at the previous inspection, but whether this is the case or not, the spread of the disease was so rapid as to afford very good ground for alarm. The very absence of any definite sign in the earlier stage is one of the greatest dangers of this condition" [section 104, p. 143]. And both Dr. Martin and Dr. Woodhead insist that no tuberculous animal of any kind should be allowed to remain in a dairy.

63. The withdrawal from dairies of every cow that had any disease whatever of her udder would form some approach to security against the serious danger incurred by man from the use of tuberculous milk, but it would not be an adequate security. The presence in a dairy of a tuberculous cow, as Drs.

* We have been told by various observers that animals have become tuberculous after being fed with milk from tuberculous cows having no appreciable disease of their udders; evidently, if this does occur, it can be but seldom.

Martin and Woodhead have shown, is a decided source of danger to the public, especially having regard to what we have learnt respecting the rapid development of tuberculosis in the udder, and the degree of danger to milk consumers incurred by the invasion of the udder in tuberculous cows.

64. It follows from the observations here recorded, that it is of supreme importance to the consumers of milk that the existence of any tuberculous disease of the udder should be ascertained without delay. Now there is no difficulty whatever about recognising the presence of *some* abnormal condition in a cow's udder, and the presence of such condition—whatever it be—demands that the judgment of a responsible expert should forthwith be obtained about its nature: unless indeed the owner prefers to slaughter the cow without delay. If the expert finds tubercle bacilli in the milk, the cow has dangerous tuberculosis of the udder. If he does not find them, he may apply the further test of inoculating some susceptible animals with the milk, and thereby learn the nature of the udder disease. By this test he will very rarely be misled. Obviously the cow must be in seclusion, and every particle of her milk must be treated as highly dangerous, during any delay that can be permitted for diagnostic purposes, and until the disease has been proved not to be tuberculosis.

Influence of cooking: (a.) Upon tuberculous meat.

65. Dr. Woodhead's inquiries as to the influence of cooking processes upon tuberculous matter present in meat and milk were begun by observation upon *Meat* actually taken from animals with various degrees of tuberculosis. As may well be supposed, he obtained little information from those cases where the disease existed in only a mild or moderate degree; for these were the cases where the meat in an uncooked condition had been used by Dr. Martin to feed test animals, but without result. Going on to the cases of advanced or generalised tuberculosis in the original animal, Dr. Woodhead obtained only negative results by feeding guinea-pigs with the meat after cooking. He did not make many experiments by inoculation of the cooked material, inferring from his observations with feeding that ordinary cooking had sufficed to destroy the harmful quality of tuberculous matter so far as the required heat had penetrated into the substance of the meat.

66. It remained to be seen what was the requisite degree of heat, and the penetrating powers of heat, through samples of meat, during various periods of time, and according to various processes of cooking. For here there was no prospect of acting instantly upon every particle of tuberculous matter, or it would be enough, Dr. Woodhead found, to subject every particle of it to a boiling temperature for a single instant. The question was of the prolongation of lower degrees of heat for sufficient time to destroy the mischievous quality of tuberculous particles situated in the substance of meat at one or another distance from the surface.

67. Dr. Woodhead undertook the investigation of this complex problem with his customary diligence, and states his results at considerable length. He had to deal with organs and tissues differing much among themselves in their power of conducting heat, though they were equally liable to be invaded by tubercle. Of course he desired to employ in his experiments some actual meat substance known to contain tuberculous matter within its interior; but he had no such material at hand. So he was fain to prepare some specimens artificially, sometimes by injecting tuberculous matter to a known depth into a joint, sometimes by smearing such matter on slices of meat and forming the whole into a compact mass. Such masses, without the intentional pollution, are known to butchers as "rolls" of meat.

68. With specimens of meat so prepared, Dr. Woodhead noted the temperatures at various depths below the surface, during various periods of

boiling or roasting, and, at the conclusion of the process, took the central portions and used them for feeding and inoculating test animals. For his feeding experiments, he presently came to prefer pigs to other test animals, finding them to be more readily than others affected by tuberculous material in their food. The results at which he arrived are comprised in the following conclusions, and we do not doubt their accuracy :—

"In the boiling and roasting experiments, as ordinarily carried out in the kitchen, the temperature, however high it may be near the surface, seldom reaches 60° C. [140° F.] in the centre of a joint, except in the case of joints under 6 lbs. in weight. Ordinary cooking is quite sufficient to destroy any smeared material that remains on the outer surface of the meat, *but it cannot be relied upon in the slightest degree to render innocuous the same smeared material when in the centre of a roll*" [section 94, p. 134]. The italics are Dr. Woodhead's. In another place he says: "Ordinary cooking, such as boiling, and more especially roasting, though quite sufficient to sterilise the surface, and even the substance for a short distance from the surface of a joint, cannot be relied upon to sterilise tubercular material included in the centre of rolls of meat, especially when these are more than 3 lbs. or 4 lbs. weight. The least reliable method of cooking for this purpose is roasting before the fire, next comes roasting in an oven, and then boiling" [section 102, p. 140].

69. Dr. Woodhead is careful to make special mention of these "rolls." He had made them for his own experimental purposes; but such rolls of meat prepared by a slovenly butcher, smearing his slices with matter from tuberculous glands, or perhaps including some tuberculous membrane in his roll, would probably form the maximum of danger to meat consumers. No cooking operations would be likely to destroy tuberculous material which had been thus sedulously wrapped up. In connection with Dr. Woodhead's inquiries, the use of raw meat-juice, as a special form of food for delicate children is not to be forgotten.

(*b.*) *Upon Tuberculous Milk.*

70. Passing from meat to investigate the effect of cooking upon *Milk*, Dr. Woodhead found himself dealing with food that lent itself readily to experimental observation, and that could (as we have seen) become, at short notice, very potent for harm to its consumers—a food too, which, while largely used in cookery, is habitually drunk by English people in a raw state.

71. His report on cooking tuberculous milk has for its central idea to advocate the boiling of all cows' milk that can by any chance contain tuberculous material.

72. The following contains Dr. Woodhead's views on the question ; it will be seen that they led him into further inquiries :—

"The most deadly tubercular material can be rendered absolutely innocuous, so far as any spreading infective disease is concerned, by the action of a temperature at which water boils. We have evidence, *see* Part xii. and xiii. (milk) that a lower temperature than this is sufficient to bring about the same results when allowed to act for a longer time, but for the present it is sufficient to state that boiling, for an instant even, renders the tubercle bacillus absolutely innocuous" [section 77, p. 122.]

73. Accordingly, in the quoted sections of his paper, he records experiments with milk containing tuberculous matter, subjected to various temperatures, and afterwards used to feed or to inoculate test-animals of various sorts, but preferably pigs. His object was to discover some method of cooking tuberculous milk that should be safe to consumers, and that should not be liable to objection by them on any score of flavour imparted to the milk by boiling.

74. As the outcome of his numerous experiments, Dr. Woodhead tells us

that "sterilisation" towards tubercle can be effected by heating the milk in a water-bath, continuing the process "until the temperature has risen from 80° C." (176° F. to 198° F.), a result which in most cases requires, he says, each several quart of milk to be in the water-bath for some half-hour. He has not only demonstrated to our satisfaction the innocence of tuberculous milk treated in this manner; he tells us of pigs (Table XLIII.) succumbing to tuberculosis after feeding with tuberculous milk heated to 80° C. (176° F.) for ten minutes, without giving adequate data about the action or inaction of the milk after long exposure to this temperature; and his experience of the higher temperature is derived from guinea-pigs only, not from pigs; though, as he has shown, guinea-pigs do not supply such good evidence as pigs about the influence of heat upon tuberculous matter in use as food.

75. We would cite Dr. Woodhead's doctrine:—It cannot be too strongly insisted on that so long as a single animal is affected by tuberculosis on injection of the heated tubercular milk, so long must the milk be held to be dangerous [section 111, p. 146.] We understand him to state here that, whatever have been the degree of heat applied, and whatever the duration of the application, however intense the method (injection) of applying the subsequent test, and however delicate the animal towards the test, no matter:—if a single animal succumb to the milk-test after the heating, that heating has not been such as to make tuberculous milk safe for food. And, in view of the demonstrated dangers of milk from tuberculous udders, and the possibility of such dangers having to be encountered by human children among other animals, we cannot hesitate to assent to Dr. Woodhead's doctrine. For avoiding such danger, we prefer to "render the tubercle bacillus absolutely innocuous" by "boiling, for an instant even," to the alternative of such "sterilisation" as he would allow. Nor, if we regarded the described method as certain in its efficiency, should we hesitate to prefer to any such "sterilisation" the simple expedient of putting every suspected milk over the fire, and taking it off when it boils.

76. In the course of Dr. Woodhead's observations on the degrees of heat wanted to destroy the operation of tuberculous matter in milk, he noted the effects upon tuberculous material resulting from temperatures insufficient for actual destruction. He could, by the operation of certain lower temperatures, obtain from "the most deadly tuberculous material" contained in milk, a weaker sort of tuberculous matter, so tardy in its operation on test animals as to simulate the lower forms of consumption seen in the human subject, or when used to feed pigs—animals having some specialties of throat structure like that of man—gave rise to chronic enlargements of the throat glands, resembling the scrofulous glands so common in children. These observations are of much interest to us, not least because they suggest the possibility of widely prevalent forms of human tuberculosis owning an origin in milk.

Recapitulation.

77. To recapitulate the information we have obtained from the witnesses who favoured us with their experience, and from the researches of our three inquirers, together with our own conclusions:—

We have obtained ample evidence that food derived from tuberculous animals can produce tuberculosis in healthy animals. The proportion of animals contracting tuberculosis after experimental use of such food, is different in one and another class of animals: both carnivora and herbivora are susceptible, and the proportion is high in pigs. In the absence of direct experiments on human subjects, we infer that man also can acquire tuberculosis by feeding upon materials derived from tuberculous food-animals,

78. The actual amount of tuberculous disease among certain classes of food-animals is so large as to afford to man frequent occasions for con-

tracting tuberculous disease through his food. As to the proportion of tuberculosis acquired by man through his food or through other means, we can form no definite opinion, but we think it probable that an appreciable part of the tuberculosis that affects man is obtained through his food.

79. The circumstances and conditions with regard to the tuberculosis in the food-animal which lead to the production of tuberculosis in man are, ultimately, the presence of active tuberculous matter in the food taken from the animal and consumed by the man in a raw or insufficiently cooked state.

80. Tuberculous disease is observed most frequently in cattle and swine. It is found far more frequently in cattle (full grown) than in calves, and with much greater frequency in cows kept in town cow-houses than in cattle bred for the express purpose of slaughter. Tuberculous matter is but seldom found in the meat substance of the carcase, it is principally found in the organs, membranes and glands. There is reason to believe that tuberculous matter, when present in meat sold to the public, is more commonly due to the contamination of the surface of the meat with material derived from other diseased parts, than to disease of the meat itself. The same matter is found in the milk of cows when the udder has become invaded by tuberculous disease, and seldom or never when the udder is not diseased. Tuberculous matter in milk is exceptionally active in its operation upon animals fed either with the milk or with dairy produce derived from it. No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter.

81. The recognition of tuberculous disease during the life of an animal is not wholly unattended with difficulty. Happily, however, it can, in most cases, be detected with certainty in the udders of milch cows.

82. Provided every part that is the seat of tuberculous matter be avoided and destroyed, and provided care be taken to save from contamination by such matter the actual meat substance of a tuberculous animal, a great deal of meat from animals affected by tuberculosis may be eaten without risk to the consumer.

83. Ordinary processes of cooking applied to meat which has got contaminated on its surface are probably sufficient to destroy the harmful quality. They would not avail to render wholesome any piece of meat that contained tuberculous matter in its deeper parts. In regard to milk we are aware of the preference by English people for drinking cows' milk raw—a practice attended by danger, on account of possible contamination by pathogenic organisms. The boiling of milk, even for a moment, would probably be sufficient to remove the very dangerous quality of tuberculous milk.

84. We note that your Majesty's gracious commands do not extend to enquiry or report on administrative procedures available for reducing the amount of tuberculous material in the food supplied by animals to man, and we have regarded such questions as being beyond our province.

All which we humbly submit for your Majesty's gracious consideration.

(L.S.) (Signed) GEORGE BUCHANAN,
Chairman.

(L.S.) G. T. BROWN.
(L.S.) J. F. PAYNE.
(L.S.) J. S. BURDON SANDERSON.
(L.S.) C. E. LEOPOLD B. HUDSON,
Secretary.

April 3rd, 1895.

FURTHER REPORT BY PROFESSOR G. T. BROWN, C.B.

1. With the views expressed in the Report, I concur, but I am unwilling to allow the alleged grievances of farmers and others engaged in the meat trade to pass altogether unnoticed.

2. For some years past complaints have been made of losses inflicted on stockowners, owing to the seizure and confiscation of carcases of animals found to be more or less affected with tubercle on *post-mortem* examination, although during life they had not exhibited any symptoms of the disease.

3. It was frequently urged that tuberculosis should be included among the diseases which were dealt with under the provisions of the Contagious Diseases (Animals) Acts, but it was not shown how the provisions of these Acts could be made to apply to the losses which were the subject of complaint. The matter was not, however, dismissed without due consideration of all the circumstances.

4. Early in 1888 the Lord President appointed a Departmental Committee to consider, among other matters, the best method of dealing with tuberculosis, with a view of checking the progress of the disease; the Committee reported "that, in their opinion, tuberculosis should be included in the diseases in the Contagious Diseases (Animals) Acts, for the purposes of slaughter and compensation for the seizure and slaughter of diseased animals exposed in markets or fairs," and there was also a recommendation to the effect that it should be made an indictable offence to breed from animals which were known to be affected with tubercle.

5. These recommendations were not adopted by the Privy Council on account of serious difficulties which were emphasized in the Report relating to diagnosis, compensation in the case of pedigree cattle, and the improbability of the disease being finally extinguished; indeed, the Committee only ventured to express a hope that tuberculosis might gradually be reduced in its extent. These points are discussed at length in the Annual Report of the Veterinary Department for the year 1888.

6. It may be observed that during this period experiments were being carried on under the direction of the Department, for the purpose of testing the infectivity of meat of tuberculous animals. These experiments are described in the Annual Report for the Veterinary Department of the year 1890.

7. In my own investigations meat was taken from tuberculous animals without any antiseptic precautions, and the meat was trimmed with the same knife which was used to cut it up, the object being to represent as nearly as possible the conditions under which such meat would be trimmed and cut into portions by the butcher. Animals fed on raw meat so collected and prepared became the subjects of tuberculosis to the extent of 75 per cent. Further, that such contaminated meat was not necessarily rendered harmless by the ordinary process of cooking was demonstrated by further experiments, which are described in the annual report of the Department for the year 1891, in which is also recorded another set of experiments carried on at the same time by Professor McFadyean. In this inquiry every precaution was taken to prevent contamination of the meat, and the results in each case were negative. The two sets of experiments certainly suggested that meat of tuberculous animals, even when wholesome in itself, could easily be rendered infective by being brought in contact with tuberculous matter in the ordinary processes connected with the slaughter and dressing of animals for food.

8. Meanwhile, the seizure and destruction of carcases of animals found to be effected with tubercle were strictly carried into effect in some districts, and in April 1890 the matter was brought prominently under the notice of the Government by a large and representative deputation which waited on the President of the Local Government Board and the President of the Board of Agriculture to urge that something should be done to recoup farmers and meat salesmen for losses sustained by what they considered to be the unnecessary confiscation of carcases only slightly affected with tubercle.

9. In reply, the members of the deputation were assured that their representations should be carefully considered, and in July of the same year a

Royal Commission on Tuberculosis was appointed by Royal Warrant "To inquire and report what is the effect, if any, of food derived from tuberculous animals on human health; and, if prejudicial, what are the circumstances and conditions with regard to the tuberculosis in the animal which produce that effect upon man."

10. After a long and careful inquiry the Commission was enabled to answer the questions suggested in the reference as far as it is possible to answer them.

11. Numerous experiments which were conducted by experts acting under the direction of the Commission left no room for doubt as to the ability of meat from tuberculous animals to act prejudicially on animals which consumed it in a raw or imperfectly cooked state.

12. Witnesses who were examined on behalf of the meat trade did not deny that meat in certain stages of the disease was unfit for food, while, in their opinion, in other less advanced stages of the disease it might be eaten without danger when the tuberculous deposits and diseased organs had been removed. These practical men will be satisfied to learn that in accordance with the terms of the reference the circumstances and conditions which render a tuberculous carcase dangerous have been carefully considered in connection with the experimental evidence, and that it is possible to admit, in favour of the witnesses' contention "that a great deal of meat from tuberculous cattle might without danger be consumed by the community." But this admission is qualified by the recognition of a degree of risk which the witnesses themselves admitted, *i.e.*, the risk of the infection of meat not only of the tuberculous carcase, but also of other carcases in the same slaughter-house by the agency of knives and other apparatus used in "trimming" or cutting off the tuberculous material, however small in quantity.

13. It was allowed by the witnesses for the meat trade that obviously bad meat from tuberculous animals should be destroyed without hesitation. They will hardly venture to deny the importance of precautionary measures being taken to prevent the accidental infection of good meat in the act of dressing the tuberculous carcase. Nor can they hesitate to admit that preventive means to be reliable must be applied under competent supervision.

14. Undoubtedly the chief grievance of the meat salesman is the seizure and destruction of the carcases of animals which immediately before slaughter were, or at least appeared to be, in perfect health and good condition. To avoid this sacrifice of what the witnesses considered to be wholesome food they suggested that a strict inspection of animals before slaughter should be insisted on, and that the authorities should take possession of all diseased animals, and compensate the owners. The very obvious abuses with which such a system would soon be associated need not be referred to in detail. With the present improved means of diagnosis one benefit would doubtless be gained. Tuberculous animals might be removed to slaughter-houses, reserved for the purpose, in which the proper means might be provided for destroying or sterilising meat as might be necessary, without any risk of contaminating the carcases of healthy animals.

15. There would be difficulties to be overcome in carrying the proposed method into effect, but it need not be assumed that the scheme is impracticable.

16. In regard to the question of compensation, which from the point of view of stockowners and meat salesmen is an essential feature of the scheme, I can only remark that the subject is so entirely outside the terms of the reference that I should not feel justified in offering suggestions. I may, however, be permitted to remark that the hardships of which meat traders complain would be materially lessened under a properly regulated system of meat inspection by persons competent to judge as to the extent and character

of the tuberculous deposits, and to devise and carry into effect the necessary means for preventing the accidental contamination of meat in the way which has been described.

(L.S.) (Signed) G. T. BROWN.

April 10th, 1895.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

Examinations in London.

THE Written Examination in the various classes was held on May 13th, in London, at the Examination Hall of the Royal College of Physicians and Surgeons, Victoria Embankment, and the Oral Examinations at a meeting of the Court of Examiners, held at 10, Red Lion Square, W.C., on and between May 14th and 16th inclusive, and the practical portions of the Second and Final Examination at the Royal Veterinary College, Camden Town, on and between May 14th and 18th inclusive.

The following students passed their Final Examination:—Messrs. H. Davies, T. B. Bindloss, W. Davies, M. C. Tailley, E. Bell, A. C. Oliver, C. A. Powell, G. N. Tomlinson, A. E. Boyer, F. B. O. Taylor, R. G. Saunders, W. W. Scales, F. B. Lowe, W. Anthony, J. E. Adams, R. W. Balls, H. Bibbey, J. Balden, J. Carter, W. Burt, J. G. Coley, W. H. Chappell, F. W. Dowell, J. Dunstan, V. Gazi, O. G. Hills, J. W. Holmes, H. Keylock, F. Lindsay, W. Millar, J. P. Heyes, S. Masterman, R. G. Stallard, J. W. Senior, * H. P. Standley, J. B. Southey, W. N. Thompson, J. G. Taylor, E. F. Wood, J. H. Wynne and S. Young.

The following students passed their Second Examination:—Messrs. F. R. Brandt*, H. M. Durrant, S. Dixson, P. E. Hoyland, W. C. Lowe, *A. Maynard, W. E Murts, C. E. Perry, W. M. Power, C. W. Stanley, F. W. Trydell, * C. W. J. Tennant, * F. T. Trewin, * F. A. Verney, * S. Woodward, C. H. Stephens, * S. T. Amos, J. Buckingham, W. H. Brown, F. Crowhurst, * P. M. Evershed, † H. Gillard, * A. F. Harber, * A. J. Hines, * T. W. Heelis, † R. W. Hall, G. H. Kitchen, * P. Lloyd, A. Miller, * A. Olver, D. J. Quinlan, C. W. B. Sikes, W. G. Taylor, † J. T. Thurstan, * F. T. Walder, * B. Woolatt, * B. E. Wooster and * B. Wood.

The following students passed their First Examination:—Messrs. H. Billington, * M. Glasse, R. L. Green, G. Sykes, * C. W. Abrams, P. Broad, D. Crole, A. M. Dowling, * F. S. Bain, E. A. Batt, R. C. Bell, A. H. Carey, * W. Cranston, O. S. Fisher, H. Gamble, F. W. Pawlett, F. S. Probyn, E. Peacy, † C. Radway, T. J. Symes, R. Stokoe, J. W. B. Sarjeant, P. W. Smith, C. M Sharpe, * P. J. Simpson, E. A. Wilshaw, H. A. Woodruff, * T. Wolsey, W. R. Williams, * A. Whicker.

ARTHUR W. HILL,
Secretary to the Board of Examiners.

ROYAL COLLEGE OF VETERINARY SURGEONS.

THE Annual General Meeting of the members will be held at the Royal College of Veterinary Surgeons, Red Lion Square, London, W.C., on Wednesday, June 5th, 1895, at twelve o'clock, to elect nine members of Council for the ensuing year, eight in the place of those who retire by rotation (but who are eligible for re-election), and one in the place of Thos. Walley, deceased, and to receive the Report of the Council.

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

The Annual Dinner will take place at the Holborn Restaurant, Holborn, W.C., in the evening, at six o'clock. Tickets 21*s.*

Notification of intention to dine should be sent to the Secretary as early as possible.

LIST OF THE PRESENT MEMBERS OF THE COUNCIL.

	Attendances for past year. Council.	Committee.
Gen. Sir F. Fitzwygram, Bart., M.P.	5	—
R. C. Trigger ..	10	18
J. Penberthy ..	13	16
J. A. W. Dollar ..	11	18
A. W. Mason ..	10	7
T. D. Lambert ..	1	—
James Fraser ..	9	7
J. Abson	11	8
Thos. Walley (deceased)	—	—
W. J. Mulvey ..	12	27
J. McFadyean ..	12	6
W. Williams ..	4	4
F. W. Wragg ..	12	29
A. Lawson ..	9	9
G. Elphick ..	8	6
W. A. Edgar ..	11	13
E. Faulkner ..	5	7
H. Kidd	8	8
H. Hunter ..	3	—
H. Thompson ..	3	2
E. S. Shave ..	5	6
J. E. Peele ..	7	3
J. McCall	4	2
J. F. Simpson ..	9	30
W. O. Williams ..	6	2
C. Hartley ..	7	8
J. Donald (resigned)	—	—
M. Hedley (resigned)	3	2
A. W. Wheatley ..	8	6
W. Hunting ..	12	23
G. A. Oliphant (resigned)	6	4
J. Nisbet	2	3

Note.—The last eight names retire by rotation, but are eligible for re-election if nominated.

NEW VETERINARY COLLEGE, EDINBURGH.

THE distribution of prizes at the termination of Session 1894-95, took place on Thursday, May 16th. The following is a list of prize-winners :—

Principal's £20 Prize—T. C. Dick.

HORSE PATHOLOGY.

Medal—Jas. McPhail.

First Class Certificates—Jas. Spreull and T. C. Dick.

Second Class Certificates—J, C. De Ville, R. C. Robinson, R. H. Knight, J. T. Allen, J. E. Mills, F. B. Byrne and F. W. Morris.

CATTLE PATHOLOGY.

Medal—Jas. Spreull.

First Class Certificate—R. C. Robinson and T. C. Dick.

Second Class Certificate—J. C. De Ville, F. W. Morris, R. J. Murnane and F. B. Byrne.

MATERIA MEDICA.

Medal—T. C. Dick.

First Class Certificate—J. Spreull, J. E. Mills, R. C. Robinson and R. H. Knight.

Second Class Certificate—J. T. Allen and J. C. De Ville.

ANATOMY.

Medal—J. B. Collyer.

First Class Certificate—W. Ogilvy and W. L. Jones.

Second Class Certificate—H. H. Ferguson, R. C. Cochrane, W. H. Savage and R. D. Williams.

PHYSIOLOGY.

Medal—W. L. Jones.
Certificates of Merit—W. Ogilvy, A. M. Porteous, W. H. Savage and R. C. Cochrane.

HISTOLOGY.

Medal—W. L. Jones.

PROSECTOR IN ANATOMY.

Certificate—J. E. Mills.

JUNIOR ANATOMY.

College Medal—A. Constance.
Highland and Agricultural Society Medal—G. J. Roberts.
First Class Certificate—A. Marrison.
Second Class Certificate—J. Paul.

CHEMISTRY.

Medal—G. J. Roberts.

BOTANY.

Medal—J. Paul.

PHYSICS.

Medal—John Paul.

DEMONSTRATORS OF MORBID ANATOMY.

Medals—J. O. Richardson and Jas. McPhail.

CURATORS OF MUSEUM.

Medals—R. C. Robinson and R. C. Cochrane.

PRACTICE.

Medals—F. B. Byrne and R. J. Murnane.

EDINBURGH VETERINARY MEDICAL SOCIETY'S PRIZES.

President's Special Medal—Jas. Spreull.
Medal Essay—J. E. Mills.
Communication—J. E. Hardie.
Essay Certificates—H. S. Jones.
Communication Certificate—J. Spreull.

Secretary—J. T. Allen.
Treasurer—T. O. Richardson.
Librarian—G. F. Liddle.

At the recent examination held by the Royal College of Veterinary Surgeons, the following students were successful :—

CLASS A.

G. E. Hamilton, Sydney Robson, F. R. Sheppard, J. W. Bee, J. Bradley, E. Marrison, G. J. Roberts, J. Paul.

CLASS B.

J. Connell, A. W. Findlay, F. Fountains, F. Liddle (2nd Honours), A. Munro, W. L. Jones, J. B. Collyer, W. H. Savage, A. M. Porteous, H. Webb (2nd Honours).

CLASS C.

J. Spreull, Dundee ; J. Mulqueen ; T. Dick, Edinburgh ; T. Buck, Ashby-de-la-Zouch ; T. O. Richardson, Poulton-le-Fylde ; F. W. Morris, Bolton ; F. Pickering, Durham ; F. Douthwaite, Beverley ; B. Fowler, Greenock ; A. S. Milne, Ladykirk ; J. E. Mills, Dolgelly ; R. C. Robinson, Carlisle ; J. A. B. Macgowan, Millom, Cumberland ; F. B. Byrne, Cork ; F. Shore, St. Boswell.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from page* 371.)

"THE LEGAL ASPECT OF SOUNDNESS."

Resumed Discussion.

MR. W. HUNTING, in resuming the discussion on Captain E. R. C. Butler's paper, said that he noticed that Captain Butler commenced his remarks by taking them at once into the law courts, but it occurred to him (Mr. Hunting) that the most important consideration in discussing the legal aspect of soundness was, how they could keep out of the law courts, and how they could keep their clients out of those courts, whether they accompanied them there as witnesses or as defendants. And the difficulty was one which would remain so long as human nature remained what it is. To begin with, the word "soundness"—if people would persist in using it—was interpreted as equivalent to perfection. "A horse must be sound or unsound," said a judge, and he (Mr. Hunting) heard Justice Field say that "just as a plate must be cracked or not cracked, so a horse must be sound or unsound." A horse might be very unsound and yet useful, and it was found impossible to abide by such rigid rules in actual practice. It must be remembered that the work of the world was done by the screws of the world, both men and horses; and soundness and usefulness were not always synonymous. Buyers and sellers of horses might be roughly divided into two classes—fools and rogues, but the biggest fool, as a rule, was the buyer; and the most difficult man the veterinary surgeon had to deal with was the man who knew least about a horse. Of all the clients one came across, the worst was the man or woman who didn't know—he or she was the most dangerous person to have to deal with. If, after examination, a horse went lame, say within a month, then to such persons the veterinary surgeon who passed the animal was either a fool or a rogue; even if the horse went lame within six months after examination, a similar verdict would be returned. And, indeed, some people were stupid enough to think that if a horse went lame after examination, the veterinary surgeon ought to have been able to anticipate its lameness. It was impossible to anticipate all the evils that might arise, and it was extremely difficult to word their certificates so as to do justice alike to their clients and to themselves. He took it, as Captain Butler said, that all that could be expected of the veterinary surgeon was the exercise of reasonable care and judgment. They might leave judgment out because, he believed, that no court of law would inflict a penalty upon a veterinary surgeon for an error of judgment. A court of law visited them with penalties if they were proved to have been guilty of negligence, and he himself some years ago had to pay £46, not for an error of judgment but for a piece of carelessness. He examined a nine-year-old horse with a spavined hock and, after a trial, advised his client that the animal would do the work he required, omitting to mention the fact of the spavined hock. Shortly afterwards the horse went lame and its owner entered an action against him. He defended it, but before the matter went into court, the opinion of the present Justice Cotton (then a counsel) was taken as to his liability; and the learned gentleman

advised him to pay the money, because he did not tell the buyer the animal had a spavined hock and therefore did not afford him the chance of using his own judgment fully and properly. In writing a certificate they must be careful to mention all patent defects. He was not going to follow Captain Butler into court. Time would not admit of this. With reference to his remarks about the judge, counsel, and jury, he agreed with him almost *in toto*; but Captain Butler did not seem to insist sufficiently upon the fact that even judges and juries, so far as horse knowledge went, might be placed in the two classes he (Mr. Hunting) had twice mentioned. If you had the pleasure of serving on a jury, you would find as a rule that on a jury there was, perhaps, one man who knew something about a horse and the other jurors would look up to that man as to a little god and he just did as he liked with the jury. A jury was an absolutely unreliable body; and they would find that for six cases that were settled right, six would be settled wrong. With regard to a veterinary surgeon's examination of a horse, and the nature of the certificate he gave, there was a personal equation in the case. Some veterinary surgeons were more careless than others; some were more experienced and intelligent than others; some were better observers than others, and some had a bit more tact. The man who had tact would, as a rule, be able to disguise his own ignorance, and, if he got into a mess, his certificate would be found to be so worded as to enable him to evade the law. It might, perhaps, be a cynical way of putting the matter, but as long as human nature is what it is, it was just as essential to word their certificates with tact, and keep outside the law, as it was to be perfectly certain of their pathological accuracy. Moreover, they were never altogether certain about their pathological accuracy, and were apt to say that this spavin would do no harm, or that splint would do no harm, when the event, as a rule, proved that it really did. In about the last paragraph of Captain Butler's address, he quoted Baron Parke's definition of soundness, remarking that "it resolves itself essentially into a question of usefulness, and provides that any disease, or alteration of structure from disease or accident, which does now interfere, or may in its ordinary course interfere, with the animal's usefulness, is unsoundness." What he (Mr. Hunting) had been saying was: let them accept that as law, and word their certificate so as not to be guilty of negligence, and use a little tact in any additions they might like to make to it. As a rule, an intending buyer picked out a horse for himself, and if he did not know anything about horses, still, he did not like others to find fault with his fancy; and if one ventured to find fault with its conformation, he would very likely be told to mind his own business. He (Mr. Hunting) did not think a veterinary surgeon should say anything about conformation unless a client specially asked for an opinion on the point.

Mr. SAMSON thought it behoved them in all instances of examining horses and writing certificates not only to look after their clients' interests but at the same time to be very careful in guarding their own. A horse might not be perfectly sound, but it might at the same time be a very useful animal and suited for the purpose for which an intending buyer wanted it. In that case it was needful to explain things formally to one's client and be very careful in advising him, otherwise the veterinary surgeon might get into trouble. Personally he preferred not to write certificates at all but to have a talk with his client. He found it much the better and safer plan to see his clients and explain matters to them. He would put an hypothetical case: Say he was commissioned to buy horses for a miller and a brewer respectively. The miller was prepared to go to £45 or £50 each for his animals, and did not care a jot whether the horse bought was sound or unsound so long as he had the veterinary surgeon's word that he would do the work required. If all clients were of that mind veterinary surgeons' work would be easier and safer than it

now is. Suppose on the other hand the brewer, whom the veterinary surgeon rarely saw personally, demanded a plain certificate whether an animal was sound or not. If that horse had the least scratch the veterinary surgeon would not dare pass it as sound, because he knew full well that if he did so the brewer would be speedily down upon him. He (Mr. Samson) never wrote a certificate without being very careful.

Professor MACQUEEN said with regard to the subject so ably introduced by Captain Butler, he had to remark that the legal aspect of soundness did not appear to him to concern very many practitioners. When a veterinary surgeon examined a horse for soundness he hoped that he did not approach the work with the terror of a law court in the distance. He understood the function of an examiner of a horse for soundness to be very similar to that of an expert who was asked to give an opinion upon a certain live thing—to wit a horse—either in a certificate or letter of advice, or in any other way he considered necessary, and for doing this he received his fee. He did not see the application of the title of Captain Butler's paper to the ordinary work of examining horses. With regard to the unfortunate position of a veterinary surgeon who was summoned into a law court because he happened to give a written opinion concerning a horse some weeks or months before, he (Professor Macqueen) held that the veterinarian need not commit himself in the box on the strength of what he had written, for he had a perfect legal right to qualify every item on a certificate. Let them remember that when an examiner gave a certificate regarding the soundness or unsoundness of a horse he did not do so under oath ; he simply gave a certificate for a fee, and when he got into the witness box he had a perfect right to modify or alter that certificate by the light of subsequent experience and various considerations which might have cropped up since his first examination. Unfortunately, too few, he believed, knew the right of the witness in the witness box and the result was that opposing counsel was apt to challenge the witness, and to shake the certificate in his face with the remark, "Did you write this, sir!" All that was what might be called "bluff." Passing to books, there was an excellent book entitled, "The Law of Horses," by D. Ross Stewart, a thoroughly well-grounded lawyer, published so recently as 1892, which contained the Veterinary Surgeons' Act, the Contagious Diseases (Animals) Act, and all the recent cases up to date and the latest decisions. He thought there was no better book required than that of Mr. Stewart. Then they should not forget the small book by J. Irving Lupton, F.R.C.V.S., on "Soundness and its Legal Aspect," in which he entered into the question of soundness and unsoundness from a veterinary point of view. There was also the work of ex-Professor Fearnley on "Examination of Horses as to Soundness." The profession did not suffer from want of literature on the question of soundness and, to some extent, its legal aspect. He hoped that if it should be the misfortune of anyone with the double qualification to undertake a new work he would not bear the application of Sheridan's remark, and be "indebted for his facts to his imagination, and for his wit to his memory." Objection had been taken by one or two speakers, to the old-fashioned formula of a certificate. "I certify" or "I hereby certify" seemed to be objected to. Some of the terms of the certificate were also considered objectionable, but if a certificate were given in fear of the law, it mattered little whether it bore on its face "I certify" or "I regard" or "I consider," or any other similar expression. It mattered nothing whether it bore the words "sound," "no unsoundness," "practically sound," or anything else approaching that definition. No one need hope to escape the law by such a quibble as that. Some seemed to think that by writing "I find this horse free from unsoundness," "I consider this horse has no unsoundness," was better than saying, "I consider this horse sound." If the case got into the law courts, the writer of a

certificate worded in this fashion, was just as likely to fail in his contention as the individual who plainly said "I consider this horse sound." There was further to be considered, the inclination of the purchaser. The buyer of horses in this country clung to a certificate or piece of paper bearing the word "sound," and he was afraid that in spite of all their efforts, they would never alter this feeling on the part of the purchaser. He could not sit down without complimenting Captain Butler on his excellent paper, and the exceptionally able manner in which he delivered it.

Mr. EDGAR said he could not refrain from saying a few words upon Captain Butler's very excellent paper. He was rather surprised, however, that they had not heard something more about what constituted legal soundness and unsoundness. Captain Butler very forcibly dwelt upon the procedure of law courts, upon the evidence adduced, and upon the certificates given, but it seemed to him (Mr. Edgar) that, after all, the practical point to the veterinary surgeon was what he had to call unsound. Taking into account the different classes of disease, or the different conditions which the veterinary surgeon found in examining horses, it appeared to him that the main contention rested, and always would rest, with the veterinary surgeon. For instance, some little time ago he (Mr. Edgar) saw a horse—one of a pair—which had been examined by a gentleman down in the Midlands and passed sound. Well, the horse I saw had distinct spavin in both hocks, went as stiff as a poker, and could hardly move across the stable. Had he been asked to examine the horse for soundness, his conscience would not have allowed him to certify it as sound. At the same time, knowing the first examiner well, he did not think that he wilfully misrepresented the condition of the horse. Therefore, it was a question of two opinions; and if the matter went to a law court, what was to be the decision? Then, again, as Captain Butler mentioned, it often happened, in their examination of a horse, that they could not definitely put their finger upon any part of the animal and say "That horse is absolutely unsound," but yet they felt confident there was such a condition—he would not say in its conformation, but in regard, say, to a curb, although there was no actual curb present—such a condition of limb as to lead one to form the opinion that in the course of a short time the horse would undoubtedly go lame. What could one do in a case like that? In justice to the seller could they say that the horse was unsound, and in justice to the buyer could they say it was sound? With respect to certificates, there were many clients who asked them to go and examine a particular horse and give them a certificate as to whether it was sound or unsound. Well, of course, if there were no witnesses present, it was only one man's word against another's; but if there was a witness present, their responsibility would be the same whether their declaration was made orally or in writing. Suppose the declaration to be oral, their words and meaning might be misconstrued. When, some years ago, he examined cattle under the Contagious Diseases Act, he was told by the authority to write "I certify" instead of "I have examined." He thought the former term was deemed more definite than the latter. Captain Butler or Professor Macqueen mentioned and rather condemned the predilections of sellers to have horses examined in order that they might hold certificates. He did not think they should condemn this inclination, as it afforded work for veterinary surgeons. If a seller liked to hold certificates as to the condition of the horses he was about to sell, he had a right to such certificates. But then they must always remember the period of time that elapsed between one veterinary surgeon examining a horse and another examining the same animal, It was quite possible for the latter to find defects that were not present at the former's examination. Perhaps, if such allowances were made, there would be less contention in courts of justice and fewer actions brought.

Mr. HURNDALL remarked that he should not feel satisfied if he allowed that

meeting to close without saying he felt indebted to Captain Butler for the able paper he had presented to them; and he, like Professor Macqueen, was particularly struck with the manner in which it was delivered. Captain Butler's delivery certainly gave a great deal of force to the points that he desired to bring out, and increased the interest with which he (Mr. Hurndall) listened to the paper. Reviewing that portion of the paper which referred to the legal aspect of soundness, he had arrived at the conclusion, as a practical deduction from a paper, as well as from his own costly and disagreeable experience in law courts, that if they could only establish relations between themselves and their clients, they would be able to carry out the suggestions of Mr. Samson of merely writing a letter expressive of their opinion. That relationship, if it could be established, would be more satisfactory to themselves, and, he believed, to their clients than the existing system. He did not know whether their experience was the same as his, but he should certainly like to see—if it were possible—a better understanding subsisting between their profession and horse dealers. He did not like the way in which he was sometimes eyed when he went to a horse dealer's yard, first by the master, secondly by the foreman, and thirdly by the man who ran the horse. The contempt which they seemed to have for the veterinary surgeon was only equalled by the contempt which the veterinarian had for these horsey individuals. He did not know whether they were under the impression that he was a sort of soft, and susceptible to bribes. He found that whereas some horse dealers like horses to go to the veterinary college, others did not like them to go there. If Professor Macqueen only knew the flattering terms in which he had heard him spoken of! One noted horse-dealer expressed a very forcible opinion as to what he thought of Professor Macqueen's abilities. He (Mr. Hurndall) replied, "My friend, I have known Professor Macqueen for a number of years, and I have a great respect for him. I feel confident that he is the right man in the right place, and the very fact that you take some objection to him convinces me that he has done his duty to somebody or other, although, it may be, his doing so has cost you a little." The horsekeeper made no rejoinder, but sniggered and retired. He desired to see as an outcome of that discussion some practical results, one of which was an increase in the fee for examinations. That was another matter in which they needed unity of action. Seeing how serious were the responsibilities they incurred, their liability to have to pay £46, or even £146, at any moment, he did think they should be fairly remunerated and enabled to give the necessary time for a full and thorough examination. He thought that some influence should be brought to bear upon the Governors of the Veterinary College at Camden Town, to induce them to raise their fees. It seemed very ridiculous that an institution of that sort, whose acting officers were regarded as great authorities on the subject of soundness, should undertake to examine five horses in addition to other work, for the paltry sum of two guineas in the course of a year.

The CHAIRMAN: I am extremely sorry to have to ask you to bring this interesting discussion to a close, but I have no option. You see how very late it is, and the agenda for our next meeting is already filled up, so that we cannot further adjourn this discussion. I will ask Captain Butler now to reply to any points to which he may desire to address himself.

Captain BUTLER said that he had nothing to add to what they had heard from various speakers, except his thanks to all for the very kindly way in which they had received his paper. He wished to thank Professor Macqueen for calling his attention to a book of the existence of which he was ignorant, and in explanation of such fault, he could only say that the book had not, perhaps, been well advertised, or he might have seen some notice of its publication. Moreover, although it might be an excellent treatise on the law

relating to horses, it found no place in the lawyers' library. It was not one of the books he found on the shelves of the Law Society's library, and he particularly drew attention to the books he found there inasmuch as they were the guides that influenced the lawyers particularly. He also mentioned that there were some other books written by veterinary surgeons, but these did not influence lawyers so much as books written by lawyers themselves. The questions of the certificate gave rise—as he thought it would—to some difference of opinion. His own view was that the certificate was a difficulty which they had built up for themselves, and which they would be only too glad to knock down as soon as possible. Professor Macqueen had given them a living picture of a bullying lawyer with a certificate commencing "I certify," although at the same time the professor remarked that such a certificate meant nothing, and could not be used to the detriment of the veterinary surgeon. Still it must be owned that a learned counsel, with such a certificate in his hand, could often make a singularly ridiculous picture of a professional witness. He could—assisted by the certificate—use arguments which were to the detriment of the witness especially if, as sometimes happened, the witness—though, perhaps, a very excellent veterinary surgeon—might not be the best of witnesses. His own idea was that the certificate might be got rid of with great advantage, especially in its present form, not as Professor Macqueen said in fear of the law, but in order to give them a better chance of expressing their opinions—the opinions at which they might have arrived. He held that the certificate in its present form did not afford them a chance of expressing any opinion. They went and examined a horse perhaps, as Mr. Samson suggested, as the result of the receipt of a telegram from a client, and they were asked to pronounce in one word whether the animal was sound or unsound. He found it sometimes impossible to give a satisfactory opinion in one word and therefore he personally declined to do so. Mr. Edgar touched upon the question of a seller holding a certificate from a veterinary surgeon. Personally he was of opinion that in no case were they justified in giving a seller a certificate. What did the seller want a certificate for? He required it in order that he might flourish it in the face of an intending buyer. Personally he (Captain Butler) saw more of the buyer than the seller and he knew the amount of respect in which such certificates were held by the intending purchaser. The dealer showed the intending purchaser a certificate signed by Mr. So-and-So, M.R.C.V.S. The purchaser looked at the document and exclaimed "Ahem! yes." He does not think much of it.

Mr. HUNTING: If a seller employs you to examine a horse, how can you avoid giving him a certificate?

Captain BUTLER: The veterinary surgeon need only give his personal opinion on the subject. He is free to act for himself. It is possible for a man to decline to do a certain thing whether he gets a fee for it or not.

Mr. HUNTING: But must we altogether decline to examine a horse for a dealer and to give him a certificate when he is buying the horse?

Captain BUTLER: My own opinion on the subject is that we should decline. He went on to say that the form of certificate which he had suggested in place of that which was in general use was what he had termed "a letter of veterinary advice." Such a document offered all the advantages that might be got from a veterinary surgeon's examination and would, he thought, do away with some disadvantages at any rate. It would afford the veterinary surgeon an opportunity of expressing himself in more than one word. In conclusion Captain Butler again thanked them for the kindly way in which they had received his paper.

Mr. EDGAR: I have very great pleasure in proposing a hearty vote of thanks to Captain Butler for the paper he has brought before us.

Mr. HUNTING: I should like to be permitted to second the motion, for I,

myself, was even more pleased with hearing Captain Butler deliver his paper, than in subsequently reading it. To hear Captain Butler deliver his address was really a pleasure—one for which I am grateful to him. I think he has so treated the subject as to make us all think a little more about it.

The motion was carried unanimously, and Captain Butler shortly returned thanks.

The CHAIRMAN having announced that at the next meeting of the Society Professor McFadyean would read a paper on "Glanders," and that the discussion would be opened by Mr. Charles Sheather, the proceedings terminated.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 377.)

MR. CLEMENT STEPHENSON spoke in the highest terms of Mr. Malcolm's paper, which he said was one of the most able he had ever listened to. He proposed that they gave Mr. Malcolm a hearty vote of thanks.

Mr. ELPHICK, having also acknowledged in eulogistic terms Mr. Malcolm's paper, seconded the vote of thanks. He attributed the less frequency of colic to better management and better feeding. He was of opinion that where a proportion of maize was given there were fewer cases than where a horse was fed on nothing but hay, oats, and beans. There was one little suggestion he would like to make and that was with regard to the mode of feeding. His advice if followed would, he believed, obviate a great deal of this gastric disturbance. There was a tendency on the part of a great many people to have in their stable fittings a small manger, from which the horse could consume his food very rapidly. His advice was that they should distribute the food over the stable surface and thus compel the horse to take two or three times the length of time to pick it up. If they did that they would see that their horses would improve very considerably. He had no hesitation in saying that if horses were fed generally in that way they would get a good deal more nutriment from a given quantity of food than they would if allowed those small mangers out of which they could eat greedily. The great object in feeding horses should be to get them to assimilate as much of the good properties of the food as possible.

Mr. H. HUNTER, having spoken in praise of Mr. Malcolm's paper, said he quite agreed with that gentleman as to the causes of tortion of the bowel. They were often asked what was the cause of twisted bowels. The popular idea was that it resulted from the animal rolling about in colic. He believed it was much more largely due to perverted nutrition. With reference to food, he had had some experience both with maize and ordinary food, and was of opinion that they had fewer cases of colic now than they used to have, whether fed upon maize or otherwise. He attributed that not so much, perhaps, to the character of the food as to the supply of water. He never neglected that with his own horses. He endeavoured to give them water whenever he could, even on the roads. He never hesitated to stop, no matter how warm the animal was, and let him have some water. With reference to periodical outbreaks of twisted bowel and rupture, he could not say that he had had any experience. He had only come across casual cases. He perhaps got one or two in a week, and as a rule they did not, except in a few exceptional cases, come a great number together. Some 12 or 18 months ago he had a large number affected with bowel diseases, but those he attributed to a little irregularity in the preparation of the food. The machinery was not in order. Mr. Stephenson, he believed, was present and saw these animals fed. The beans were not broken and the oats were going through the

machine whole. There was no means of taking the dust and dirt out of the food, and he believed that had largely to do with that particular outbreak. With that exception, he did not think he had ever seen a number of cases come together in the way described by Mr. Malcolm. There were many other points in the paper which might be discussed at a further meeting with considerable profit.

Mr. HUNTING described an experiment on feeding 18 horses with food comprising three parts of barley, one of oats, one of maize, and one of beans. They had the same weight as given to some 600 or 700 others fed on the ordinary mixed food, namely, two-thirds of corn and one-third hay. Six of the twelve were in the stable at South Hetton, and six of them were in a stable at Murton. After feeding them in the way described for about a month they had seven cases of colic in one stable in four days, but none in the other. He got a letter from the resident surveyor, calling his attention to this extraordinary thing, and requesting him to stop the barley at once. He refused. He did not stop the barley, except in one stable—not that in which the animals were affected, but in another one adjoining. If he had stopped the barley he would never have believed otherwise than that the barley produced the colic. Months had passed since that took place and there had only been one case of colic, and that case happened in the stable where oats, hay, and beans were used. There had not been one in the stable where barley had been used in the same proportions as before. That satisfied him that barley had nothing to do with the case of colic. What had produced it? He was naturally very anxious to find out. Effects were not produced without cause. Inquiries elicited the fact that the food of the horses affected had been changed from maiden seed and clover hay mixed with corn, to two-year-old old-land hay, and that hay not of a first-class character, having got damp when being attacked. The change was made four or five days before the colic broke out. That showed how important it was that they should not jump to conclusions. They wished to gain the confidence of their employers, and that they could best do by showing that at whatever cost of trouble and time they would get at the bottom of a thing.

Mr. H. HUNTER asked for views upon feeding horses on boiled food. What effect had this upon digestion and upon the frequency of colic? It was an important thing in connection with feeding whether boiled food was beneficial or otherwise.

Mr. NISBETT endorsed what had been said about the diminution of colic. Where they had 10 or 20 cases 20 years ago they had not one now. At the colliery where he had the honour of looking over the horses, colic was a thing almost unheard of now. He had tried feeding on oats, hay and beans, and on oats, beans and maize, and had found the result something similar in all cases. As Mr. Hunting had said colic often occurred after a change of hay. If they had been in the habit of giving sound, sweet clover hay and changed from that to old-land hay they invariably got cases of colic, especially if the latter hay had been subjected to wet weather. He had found more colic arise from that than from any other part of feeding, such as mixture of beans, maize and oats. He was fond of maize. It helped to counteract the binding effects of beans. In conclusion Mr. Nisbett spoke of damping food previous to giving it to the horses. When Professor McGill introduced that system it was thought that all horses would get the colic. But he had never had a case since adopting that plan.

Mr. CHIVAS spoke of the effect of soft feeding in the agricultural district were he practised. When he went into the neighbourhood 16 or 17 years ago there were 20 cases of colic to every one there was now. The farmers then fed their horses on boiled oats, boiled barley, mashes or something of that description. They thought they could not keep the animals right unless

they did that. He advised them to give it up entirely and use dry oats, hay and bran. Since they did that cases of colic had been very rare indeed.

Mr. HUNTING asked for opinions about the results of boiled food for cart horses.

Mr. H. HUNTER quite agreed with Mr. Chivas that where they gave boiled food or mashes they had more colic cases. He never gave a mash except in a case of sickness.

Mr. HUNTER referred to an awful mortality among horses from this cause some years ago. It was about 10 or 12 per cent. The farmers were giving the animals large quantities of boiled barley, linseed, turnips and other things. Professor Gamgee advised them to stop that. They did so with surprising results, and the agriculturists gave the Professor a grand dinner in Edinburgh about the year 1850, in return for the advice he had given them.

Mr. ELPHICK endorsed everything said with regard to boiled food. It was the greatest folly in the world to give it to horses. It was a most unnatural food. It was not natural to give horses pigs' meat. If they wanted to get fat, flabby horses, give them cooked food. What happened? Disease broke out amongst them, and they died like rotten sheep. Give a horse good, sound, hard food, with judicious work, and he would repay his owner for it.

Mr. MALCOLM, in reply, said he was exceedingly indebted to the meeting for the discussion on his paper. He had come with the hope that he would hear the opinions of those who had had experience, and he had not been disappointed. Mr. Hunting had referred to barley. He (Mr. Malcolm) was very much interested in the cases Mr. Hunting had brought before them. He had been doing something similar. For the last four or five months he had had 60 horses receiving barley instead of oats, the proportion of food being exactly the same, and, so far as he could see up to the present, he could not tell the difference between horses fed on oats and horses fed on barley. They had 120 working horses, and 60 of these had been getting oats, and 60 had been getting barley. Now, was there any difference as regarded cases of colic, or anything else? He was glad to hear the opinion that colic, or, rather, rupture and twist, was not so frequent now as it used to be. His early experience had been among agricultural horses in Scotland. These horses were fed solely on oats and hay, with a mash at night, and he could honestly say he scarcely ever saw a case of rupture or twist there. Comparing that with his experience in the Midlands, and having heard his Manchester friends speak about it so frequently, he had naturally come to the conclusion that the disease was much more common now than in his early days. If they turned up Professor Williams's books, they would find that he stated these cases were then exceedingly rare. He had also been exceedingly interested by what Mr. Hunting had said about the order of food in the stomach of a horse. The observations were contrary to those usually taught. Mr. Elphick touched an important point when he spoke of the length of time a horse took to eat its food. He believed, himself, that many cases of colic were produced by the horse eating his food too rapidly. That led him to believe that mixed foods were more liable to cause the disease. The horse was able to eat it more rapidly and in a way to cause engorgement of the stomach more readily than when he took a longer time over a meal. He was in favour of maize feeding. He believed far more cases of colic were brought about by the way horses were fed than by the grains given them, providing of course that the grains were sound. He knew of few grains which, if judiciously given and were sound, that would produce colic naturally in themselves. Many cases of colic were brought about through defective food. From the cases he had cited they would see that in his experience twist or rupture had almost exclusively occurred through watering, either through the allowance being too limited or irregularly given.

In conclusion Mr. Malcolm deprecated the giving of a large quantity of food at one time, and expressed himself favourable to Professor McGill's action with regard to damping food. His experience as to boiled food was entirely opposed to those who had spoken. His success with it might be due to the fact that they never gave too much of it at once.

Mr. ELPHICK called attention to a paragraph which had appeared in *The Newcastle Daily Journal* with regard to an alleged serious outbreak of disease among horses in that city. The paragraph had alarmed the people not ouly in Newcastle, but also outside of it. It had materially affected him. When anybody brought a horse to Newcastle they were told not to put it into a public stable in case they might take the disease home. He was not aware of many large firms in Newcastle whose horses were affected, or where they had any of this serious outbreak of disease. He would like to ask those present if they knew of any outbreak to the extent alleged by the paragraph in question. If such a thing was not a fact the sooner publicity was given to a denial the better.

Mr. NISBET said so far as he knew the country had never been so clear of disease since he first knew it. He did not suppose there was a case of infectious disease in the whole neighbourhood.

Mr. HUNTING testified to his colliery being clear of infectious disease, and also to the fact of the agricultural districts of north, east, and south-east Durham being free. In Northumberland he understood there were several outbreaks of influenza, but he did not think it was very alarming. It was of a mild form. But throughout the whole of the North of England he never knew horses more free from infectious disease.

Mr. ELPHICK said they had had a good few cases in Newcastle and district, but practically speaking the disease had ceased entirely.

The PRESIDENT said about a fortnight ago a horseowner in Sunderland had occasion to send some goods into Newcastle. Two days after returning the horses, which had been put into a stable, manifested symptoms of pink eye of a very mild type. Apart from that one stable, he had not in his whole practice come across a case of infectious disease.

Mr. H. HUNTER said so far as his experience went influenza was not general in the city. The particular outbreak alluded to in the paragraph in question was confined to one large stud. The cases were being investigated. They had no tendency to spread, and he did not think the public need have any fear whatever as regarded the disease in Newcastle generally. Whatever might be the nature of this disease there was no question that it was virulent and fatal, and he hoped the whole thing would be got at, that the cause would be found, and that steps would be taken to stop its ravages.

The vote of thanks to Mr. Malcolm having been accorded, the meeting terminated.

The Dinner.

Subsequently to the meeting, the annual dinner of the Association was held at the same place. The President occupied the chair, and there were present: Messrs. J. E. Peele, V.P., J. H. Rider, V.P., G. Elphick, H. Hunter, A. Hunter, J. R. Crone, D. McGregor, W. Grieve, Veterinary-Major Durrant, A. A. Stevens, A. Chivas, T. R. Jarvie, C. Hunting, A. Dalgleish, W. Hunter, J. B. Nisbet, and F. T. Finney, Secretary. Visitors: J. Malcolm, Birmingham; Councillors A. P. Anderson, R. L. Dunford, and J. A. Baty, Newcastle; Dr. H. E. Armstrong, Newcastle; H. H. Roberts, Mr. G. Lee, and F. C. Robson.

At the conclusion of the repast,

The PRESIDENT proposed "The Queen," and also "The Prince and Princess of Wales and the rest of the Royal Family," both of which toasts were loyally responded to.

Mr. W. HUNTER submitted "The Army, Navy, and Auxiliary Forces," coupled with the names of Veterinary-Major Durrant, Veterinary-Captain Elphick, and Veterinary-Lieutenant A. Hunter, each of whom responded.

Mr. J. NISBET gave "The Corporation of Newcastle-upon-Tyne." He regretted that the Mayor and Sheriff were not present, but was glad to see at the table three gentlemen who also belonged to the Corporation. They knew there was an old Scotch saying, "If you cla ma' back, I'll cla yours." He would like to claw the Corporation's back if they would only be so good as to claw the Association's back in return. He thought they did that very well. They had a large stud of horses themselves, and they saw the utility of having a veterinary surgeon as head of affairs in connection with their horse department. Another thing, one of the gentlemen of the Corporation present was very fond of the horse, and it augured well when he came to a social gathering such as their annual meeting there. It indicated that he appreciated the services of the profession. He (Mr. Nisbet) might say the same thing of another member of the Corporation present, who, he believed, was very fond of the cow. When they had a little social gathering, they felt it a great honour that the Corporation of the district, wherever it might be, should come and patronise them. They were certainly very much obliged to those gentlemen for their presence that night. It was not the first time they had been present, and he hoped it would not be the last. He would conclude by asking the company to drink to the health of the corporation of Newcastle, coupled with the names of Messrs. Anderson, Baty, and Dunford.

The toast was received with enthusiasm.

Mr. ANDERSON, in responding, said he was delighted not only to be with them that night, but also to know, by the way they had received them as members of the Corporation, that they at least knew something of the latter body whether they knew anything about them as members or not. Mr. Nisbet had reminded the company that some of the members of the Corporation present knew something about animals. Having expressed the pleasure it afforded him to meet Mr. C. Hunting, and Mr. H. Hunter in particular, Mr. Anderson said he was always delighted to support a society like this. It was an honourable society, and did a great deal of excellent, useful work. He was agreeably surprised to see such young members of the society. It was a good omen. It was important that they who were older should, by reading lectures and papers, endeavour to bring those young members up to the high standard occupied by the profession. So far as the corporation of Newcastle were concerned, he could assure them that that body had done the very best possible for the ratepayers. He instanced their efforts in connection with the Byker Bridge and the tramways, and concluded by saying that if the ratepayers could recognise their efforts they would be satisfied. He congratulated the president upon his election, and wished him much happiness in his term of office. He also wished the Association much prosperity.

Mr. BATY referring to the remark made by Mr. Nisbet that some of the councillors present took a certain interest in horses and that some took an interest in cattle. said he would take the latter as applying to himself. As most of them were aware he and his friend Mr. Anderson had been to London with a deputation for the purpose of trying to get back the cattle trade. He did not mean to say that they went for the benefit of the veterinary surgeon—rather the reverse. But they thought, having such a large sum of money invested in the cattle docks at Newcastle, that the time had arrived when they should make an effort at all events, to get the trade back. However, notwithstanding the arguments, persuasion and eloquence of their esteemed mayor and the champion of the Central Hall, and a few less important members of the deputation, they failed. Mr. Gardner held, and he (Mr. Baty) believed correctly so, that although there had not been any disease in

Denmark for twelve months it had been at Schleswig-Holstein a few months before. That, Mr. Gardner thought, was a sufficient reason to prevent the cattle coming to England. But although cattle could not come in from Schleswig-Holstein to Denmark, unfortunately the Germans could. He quite agreed with Mr. Gardner that if there was the slightest danger of bringing the disease into this country they were better without the cattle. He was sure every veterinary surgeon would agree with him so far as that was concerned. Mr. Baty having spoken of the changes which had taken place in the veterinary profession since the old blacksmith used to bleed the horses and so on, he said the veterinary was now a scientist. He acknowledged the services rendered by Mr. Clement Stephenson, to whose exertions and skill he attributed in a great measure the absence of disease in the city. He thanked the company for the manner in which they had received the toast. Mr. Dumford as chairman of the Horse Food Committee would speak of the horses.

Mr. DUNFORD spoke jocularly of the disadvantage he laboured under owing to being the last speaker. Another great disadvantage he was placed under was that he had only recently been appointed chairman of the Horse Food Committee. The Corporation had a splendid stud and it was well looked after. It would give him great pleasure, if invited next year to this gathering, to give them a lengthy discourse as to mode of treatment with regard to the Corporation horses. With Mr. Anderson he believed the Corporation was animated by a desire to do the best they could in the interests of the public at large.

Dr. H. E. ARMSTRONG proposed "The Royal College of Veterinary Surgeons." He did not know any more elevating work than that referred to by Councillor Anderson, namely, the educating of the young members of one's own profession. Their profession like his own was becoming every day harder to follow. It was a question of the survival of the fittest, as in most other matters of this kind. No man would care to put his hand to the plough either in connection with the medical or veterinary profession unless he was in thorough earnest. His chance of making a fortune in either case was probably not great. But he had before him in each instance a very lofty ideal to work for—the alleviation of the suffering of man on the one hand and the alleviation of the suffering of animals on the other. They all loved animals and to relieve the pain, to prolong the life of these dumb creatures, to strengthen them and make them fit to do their work was a grand calling. Their college in that respect did its duty admirably well. The Institution had, he understood, lately completed its jubilee. It was thriving in every way, and was sending forth into the world men—highly educated men—able to do good work and raise the tone of their profession. Its curriculum had been increased to four years. He had had that fact in mind when he said that a man having put his hand to the plough would not think of turning back, because he had sacrificed so much time to fit himself for the highly educated profession. The veterinary profession like the medical was exposed to a great deal of danger in respect to infection. He coupled with the toast the names of Messrs. J. Nisbet, G. Elphick, and H. Hunter, members of the Council of the College.

The toast was heartily honoured.

Mr. NISBET said, as one of the representatives of the Royal College of Veterinary Surgeons, it gave him very great pleasure to thank the company for the cordial manner in which they had received the toast. Like all corporate bodies the Royal College of Veterinary Surgeons often got more kicks than halfpence. They certainly had had a number of kicks from the profession during the last two or three years, which had been a time of vast importance to the profession. He took credit for the North of England

Veterinary Medical Association as the pioneers of many of the reforms which had taken place in the profession. At one time there was a sort of round-table conference. They elected themselves and did what they liked. The North of England Veterinary Medical Association saw the folly of such a thing, and were convinced that if the profession had to be in keeping with the advancement of other professions some reform must necessarily take place. The Ninth Clause of the old Charter was a great stumbling block, and so were the dual appointments. This Association brought these matters forward. It was a matter of sending sufficient voting power up to London. He had the honour of being one of their representatives. That was four years ago, and the changes which they then advocated had now become law, viz., the rescinding of the Ninth Clause, abolition of dual appointments, and the election of president from the members of the Council alone. As they were aware, they had also extended the curriculum from three to four years, and they had now the medical matriculation examination. All these measures had his warm support. He thought they could not educate a veterinary surgeon too highly. They had a very important position to fill, and, like the medical profession, they must be educated men. It was not what it used to be 20 or 30 years ago. He had no doubt that the gentlemen of the profession then were imbued with a real love for horses and cattle and other domesticated animals. They loved them and wished to do good to, and to save the lives of, those poor animals. They also wished to lessen their suffering. Now they had a different class of men coming before them. They had young lads of 17 and 18 years of age coming direct from school to college, and necessarily these men were highly educated. But there was another step in the veterinary education which must come to the fore. He was sorry to disagree with his friend the President who, in his introductory address, referred to the subject. He meant the necessity there was for young men serving a pupilage. He maintained that the class of men who came forward into the veterinary profession were bound to have some practical teaching. He had attended examinations at Edinburgh as a delegate from the Council, and he saw the necessity—the absolute necessity for the young men who went up for examination having more practical knowledge. If the compulsory pupilage spoken of could be the means whereby the student could attain that practical knowledge then by all means let them have compulsory pupilage. If the student could obtain that knowledge in any other way, as, for instance, by serving so long a time under a veterinary surgeon, that would suffice. But it was no use talking to a lad. They must see him do the work, and every student must be able to do it before he got his diploma. They wanted to do what was right, and they wanted to advance with the times.

Mr. ELPHICK also begged to thank the company for the manner in which they had received the toast. He would take that opportunity—being the first he had had of speaking in public since his election—of thanking sincerely the members of the profession for having returned him as a member of the Council. It was nearly two years since his appointment, and he could say that the duties imposed upon him required a great deal of time and attention, and also a large amount of money. But none of these he begrudged if his services were of any use in elevating the profession. Since he had the honour of being elected, there had been a great many alterations, most particularly in regard to the education of their students. He could assure them and the public that it was the great desire of the College to see that no man was passed as qualified for a veterinary surgeon without a fair amount of knowledge, practical as well as theoretical. He could also say this, that he thought the students would yet be compelled to show still more practical knowledge before they were allowed to take the degree of M.R.C.V.S. He had no doubt in his mind that a good education was the first essential. Unless

a man had that, he would not be able to grasp the subjects which he had to meet. The Council had, therefore, acted very wisely in increasing the student's matriculation to be equal to that of the medical profession. He also thought they had acted very wisely in extending the curriculum from three to four years. It would give the student a much better chance of obtaining knowledge, and also of doing more practical work. From observations made not only on the Council of the College, but also at the large teaching schools, he was convinced that everyone was striving his utmost to see that the students got practical knowledge. Speaking of practical knowledge, he must disagree entirely with Mr. Nisbet about compulsory pupilage. He thought it anything of that kind were made compulsory, it would not be done well. Compulsory pupilage would not guarantee that a man was a practical man, or that he knew anything at all about his subject. It was not in the Royal College that a man got his practical knowledge, but the College would fail in its duty if they passed a man who had not a good practical knowledge as well as a good theoretical knowledge. The College was there to protect the public, and to see that men were not launched upon it as frauds. He could assure them that it would be the greatest endeavour of the Council of the College to see that none but really good sound men were passed into the profession. As Dr. Armstrong had said, this was not a profession out of which great fortunes could be made. It was not a profession that they could speculate in. It was an honourable profession, and a profession he would like to see the public look more up to. The public generally seemed to look down upon a veterinary surgeon as if he were a groom, or a coachman, or something of that kind. They in Newcastle were trying to raise their status, and the Royal College was trying to do so. A great deal of their proceedings were not made public. They were doing considerable work in trying to put down unprofessional conduct. Only at a recent Council meeting they had a long list before the Registration Committee, in which several members of the profession were cautioned as to their proceedings. In fact, one was struck off the rolls of the College, and he might say it also behoved the profession to assist the Council by reporting any glaring cases. By so doing he had not the slightest hesitation in saying that they would raise themselves in the estimation of the public. When once they did that, and got the confidence of the public, they would not only have done good to themselves, but also to the community at large. He did not think owners of horses and cattle had sufficient confidence in them. They seemed to look upon the veterinary surgeon, in a great many respects, just as a nice convenience. They tried to doctor their own animals until they thought the latter were going to die, and then they called in the veterinary. If the animal died the veterinary got the credit of killing it. It would be a benefit to the horse-owner and farmer if they would employ a veterinary surgeon oftener than they did. The veterinary surgeons did not wish to make a bill out of the owners of animals; they only wished to be paid for what they did. He thought the least the public could do was to give them the good as well as the bad. Many cases had come under his notice in which he considered the veterinarians had been most untairly treated. It would be better if those who employed the veterinarians would realise that their great aim was not only to cure disease, but also prevent it. With regard to tuberculosis, he really did think it was time the local authorities in many of their districts took this question up. These local authorities seemed to take a great deal of interest in preventing the loss of life at music halls and theatres by seeing that proper exits were provided, and in many other ways. Yet they never thought of the hundreds of lives lost through a disease which was really preventible to a very great extent. He felt confident that if the Newcastle Corporation took up this question of tuberculosis, and brought pressure to bear in the proper quarters, some good would result.

Mr. H. HUNTER having thanked the company for their hearty response to the toast, said not only had their society encouraged the reforms made in connection with this profession lately but when they had undertaken to elect a member they had never failed. He believed the examiners at the College were doing their duty very well indeed. They were doing their best to give justice to the student and also to the profession. He had had the pleasure of being present at the examinations on two occasions—once in Glasgow and once in Edinburgh—and was confirmed by what he then saw in his belief that full justice was done. As a rule if a student failed it was his own fault. A good student was very soon found out by the examiners, of whom Mr. Malcolm was one and one of the best. Some students came up absolutely ignorant of the subjects they were to be examined upon. Speaking of the extended curriculum, Mr. Hunter said he hoped it was a step in the right direction. He thought the Council had been a little too hard upon the students in making them pass the whole session before allowing them to sit a second time for an examination. A student might be moderately good and might have barely failed to pass. He might even have been so unfortunate as to have been rejected more than once or twice. It was a matter of serious consequence to the parent or guardian to have to send up a lad repeatedly. He believed it did not apply to the medical profession. He did not think in that profession if a student failed he was asked to pass a full session before he could go up again for examination. His opinion was that whilst they should emulate that profession they ought not to attempt to get ahead of it in the rules applying to students. He quite agreed that a student ought to be well qualified. He did not agree with Mr. Nisbet about the compulsory pupilage. The examiners would see that the students had the knowledge and they might get it where they liked.

Mr. HUNTING proposed "The Sister Profession." Members of the medical profession, he said, had been their best friends in the past, and he believed that at present the members of the medical profession were their sincere well-wishers. All veterinary surgeons had obtained very great benefits from the sister profession. Having described the growth of medical knowledge in England, Mr. Hunting said they thanked the medical profession for the support they had given, and for the freedom with which they imparted to the veterinary surgeons any information they might obtain in the pursuit of knowledge. He had pleasure in coupling with the toast the name of Dr. H. E. Armstrong.

Dr. ARMSTRONG, in replying to the toast which was well received, spoke of the warm feeling which existed between the two professions and the kindly way they had worked together, especially in connection with comparative pathology. He referred to a paper he had read on the subject before the National Society and to the discussion which ensued. At that time he expressed a hope that the time was not far distant when medicine would be pursued in the University of Durham. At the present time, Professor George Murray (this was a development that had taken place since he, Dr. Armstrong, read his paper) was teaching comparative pathology. He was sure Professor Murray would be glad to receive at his lectures any student of the veterinary profession to study the subject side by side with members of his own (Dr. Armstrong's) profession. Reverting to the way in which the two professions had worked together, Dr. Armstrong spoke of his having once to go abroad for information, adding that he got it from the veterinary profession. It concerned his public duty in connection with the inspection of butcher meat, and he had to go to France for a book, not being able to lay his hands upon it in English. Now they had good works in the English language. Comparative pathology had been studied in France and Italy before it was studied in England. Now things were altered. He hoped the

time was not far distant when the two professions would work still closer together. They might depend upon it that all the progress the medical profession made with the subject of bacteriology would be made from animals through the veterinary surgeon's assistance. The medical men looked to them very anxiously for help.

Mr. JOHN MALCOLM proposed "The North of England Veterinary Medical Association." He said it was 16 or 17 years since he joined this Association. He always looked back with great pleasure to the many happy times he had had in connection with it. He was present at their first festive gatherings under the presidency of their old friend, Mr. Dudgeon. He remembered the eloquent and able speech that gentleman delivered to them that evening—how he advised them individually to do their best for the profession and how he urged them to unite for furthering those measures of progress and reform, of which, as had been truly said that night, this Association was the pioneer. He sometimes thought that this Association next to the Council at that time did more than any other society throughout the whole country. At present the Association was in a unique position in having three members of Council. No other provincial association had as many, though many of these bodies were numerically much stronger. They had 100 members in their Midland Society, but only one member of Council. He did not know how many members this Association had, but was pleased to see that they had three members of Council. He was a little bit surprised at what he would term the apathy of this Association. Hitherto it had always been in the van of progress, but now they seemed to be resting upon their oars and doing nothing. The Central Association had passed a resolution and formed a deputation to petition Government. He found the Midland Association doing the same and the same remark applied to the Yorkshire Association. He heard not a word of it here. He referred to the appointment of Major Tennant (who though a very estimable man was not a veterinary surgeon) to replace Professor Brown as head of the Veterinary Department of the Board of Agriculture. It was time that the veterinary profession were up and doing, and approaching the Board of Agriculture about an appointment like that. Having expressed the pleasure it afforded him to be present, Mr. Malcolm said reference had been made to the great changes, educational, scientific and social, which had taken place in the veterinary profession. He believed that what was true of the past would be true for a good few years to come. When they remembered some of the eminent men who had been connected with the Association the young members would realise that they had something to emulate. He coupled with the toast the name of the president.

The toast was enthusiastically received, and the President, upon rising to respond, was greeted with the singing of "He's a jolly good fellow."

The PRESIDENT, having thanked the company for the way in which they had drunk the toast, said he could assure them that he had not sought to occupy that chair that evening. He was not present at the last meeting when the matter was settled, and when he wished to withdraw, declaring that he did not wish to stand, his friend Mr. Nisbet said their rules were like the laws of the Medes and Persians: they were unalterable. So, seeing that they had such an able secretary in the person of Mr. Finney, and seeing that he had so many friends in the Association upon whose sympathy and support he could rely, he undertook to follow in the footsteps, however unworthily, of the very eminent gentlemen who had occupied that chair in past years. The North of England Veterinary Medical Association had always been in the van of progress. They had heard a great deal about the Newcastle Programme in relation to Imperial politics. They also had a programme, and all the measures in connection with it had been placed on the statute book. Mr. Malcolm had said he was surprised that they were resting on their oars

Perhaps it had been his (the President's) fault in not bringing the matter of the appointment up. He believed that they as veterinary surgeons were conscious of the very great slight the Board of Agriculture had cast upon them. They had many eminent men who were able to take up the work and follow in the footsteps of Professor Brown, who had so ably carried on the work in connection with this important department. He did not think he could say very much about the North of England Veterinary Medical Association other than they had already heard. As they knew, they had three representatives on the Royal College of Veterinary Surgeons, and they had heard that there was a difference of opinion in the Council, even among their own representatives, on the educational question. He would repeat what he had said in his address at the meeting—that he considered it would be unfair for the Council of the College to place barriers in the way of a man who might be a great ornament to the profession in years to come, but who might not be able to find the time and money to undergo training with a practical veterinary surgeon. He might be in a position to gain that practical knowledge from intuition, as they might say, and from a natural love of animals, and yet fail to pass the preliminary examination and pass the examination of the Royal College of Veterinary Surgeons. He thought it was the fault of the examiners if they allowed a man to pass without being practical and scientific. They ought not, however, to impose restrictions, and say "You must get your knowledge here, or you must get it there." As long as the student possessed the knowledge, the examiners had no right to say how he had to get it.

Mr. W. HUNTER proposed "Our Guests," coupled with the names of Mr. Baty, Mr. Dunford, and others.

The toast was heartily received.

Mr. BATY, in replying, alluded to Mr. Elphick's remark with reference to the Corporation and tuberculosis. He assured them the Corporation paid every attention possible to the disease. They had in Newcastle a unique power. They could go into the market and turn any cattle out which their veterinary suspected of being affected with tuberculosis. He believed there was not another market in the kingdom could go so far. He contended that the butchers of the city had set an example to the kingdom. They had formed an insurance association, whereby they had 1s. a head for heifers and bullocks, and 1s. 6d. a head for cows. If it were found with tuberculosis they got 2s. 3d. back, and that was the greatest protection a community could have that the carcase would be destroyed. It was the proper way. Having alluded to Professor Brown's successor, and want of a veterinary in Mr. Gardner's department, Mr. Baty concluded by saying he sincerely hoped the veterinary profession would make an effort to retain some power in their hands with regard to animal disease.

Dr. ARMSTRONG remarked that the Corporation of Newcastle had one thing in respect of tuberculosis which no other Corporation had. They had power to compel the farmers and dairymen to notify the disease.

Mr. ELPHICK said if the Corporation had the power let them do their duty. He had no hesitation in saying that 75 per cent. of the cows that died in Newcastle died from tuberculosis. They came out of the byres within the borough. It was not the farmer but the cowkeeper he referred to. The cows were milked up to the 11th hour. Wasn't that a means of disseminating tuberculosis?

The gathering shortly afterwards dispersed. Songs were sung by Mr. Hoffman, and Councillor Dunford gave an exhibition of "fireworks."

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

THE spring quarterly meeting of the Association took place at the Queen's Hotel, Leeds, on Friday, April 26th, Mr. James Cooke, of Scarborough, (President), in the chair.

Letters of apology for non-attendance were read by the Hon. Secretary (Mr. Frank Somers), from Professors Williams, Penberthy, and Pritchard.

The HON. SECRETARY also announced that letters had been received from the following veterinary medical societies agreeing with the resolutions passed at a special meeting of the Association in regard to the Board of Agriculture and the veterinary profession :—Eastern Counties, Lancashire, Royal Counties, Irish, Lincolnshire, National, South Durham, North Yorkshire, and Royal Veterinary College, also from the Royal College of Veterinary Surgeons.

Nominations and Elections.

Mr. G. E. BOWMAN, Leeds, nominated Mr. G. Bowes, Leeds, as a member of the Association, and the CHAIRMAN nominated Mr. Charles Lang, Bridlington. The following gentlemen were now elected members :—Mr. C. S. Smith, Barnsley, proposed by Mr. BOWMAN and seconded by Mr. A. W. MASON ; Mr. J. W. LAZENBY, proposed by Mr. SCRIVEN, and seconded by Mr. CLARKSON ; and Mr. Holden, Scarborough, proposed and seconded by Mr. SCRIVEN and the CHAIRMAN.

Votes of Condolence.

The CHAIRMAN said he regretted that since their last quarterly meeting they had lost by death a member of their Association in the person of Mr. Anderton, of Skipton, and he moved a vote of condolence with the family of the deceased gentleman.

Mr. A. W. MASON seconded, and pointed out that Mr. Anderton's diploma dated from 1861, though for many years prior to that time he was in the profession. Mr. Anderton had been a member of Council, took a great deal of interest in the Yorkshire Association, and had its welfare thoroughly at heart. The resolution was carried unanimously.

The CHAIRMAN further remarked that the veterinary profession had recently lost by death a very prominent member. He alluded to the late Mr. Thomas Greaves, of Manchester, who always took a great interest in everything relating to veterinary matters, and whose death would no doubt prove a great loss to the profession. He was a gentleman who did a great deal for the profession, and his genial manners and sympathetic nature won the esteem of everybody who came into contact with him. It was his pleasure and privilege to have been a pupil of Mr. Greaves some years ago, and he knew him to be one of the best sort possible, not only as a veterinary surgeon but also as a man.

Mr. MASON endorsed the Chairman's observations, and added that he went over to Manchester to pay a last tribute of respect to the memory of the deceased gentleman. The funeral was attended by nearly the whole of the members of the veterinary profession in Manchester. He noticed from the Register that Mr. Greaves' diploma went back as far as 1841. Mr. Greaves had been president of their College, and for many years a member of the Council, attending the meetings regularly up to the time of his failing health. He was always ready to do a good and kindly action for any member of the profession.

Mr. SCRIVEN also bore testimony to the worth of the deceased gentleman, who, he said, was not only a gentleman, but a brilliant practitioner.

The resolution was agreed to with unanimity.

The Dating of Horses' Birth Certificates.

Mr. PICKERING then brought before the meeting the question of horses' birth

certificates. He said he certified thoroughbreds from January 1st, and half-breds from May 1st. Recently he was asked to examine a four-year-old chestnut, and, following the general rule observed in the profession, he gave a certificate that the animal was rising four, though, as a matter of fact, he knew it was over four. He dated the certificate from May 1st; the horse was the subject of negotiation, and complaint was made of the description given on the certificate; the dealer in the transaction saying that he had bought the animal as a four-year-old, and that all horses' ages now dated from January 1st. Ultimately, however, the horse was accepted by the buyer, and a veterinary surgeon at Aldershot said that his (Mr. Pickering's) certificate was given in the right way. He now wished to know if the date of ages had been altered or not.

The CHAIRMAN: Not to my knowledge.

Mr. BOWMAN said he examined a good many horses, and if he considered a horse a four-year-old, he described it so. For show purposes he believed the age dated from January 1st, as in the case of thoroughbreds.

Mr. MASON thought the subject needed no discussion, for thoroughbreds dated from January 1st, and half-breds from May 1st.

Mr. BOWMAN did not think that Mr. Pickering had done wrong.

The subject then dropped, with the understanding that, professionally, there had been no alteration in the dates.

Exhibition of Specimens.

The members spent some time in examining and discussing a specimen of an enlargement underneath the lumbar vertebra of a fourteen-year-old cart-horse, submitted by Mr. Greenhalgh (Leeds). The case was a very interesting one, but no definite conclusion was arrived at as to the cause of the enlargement. The discussion was adjourned till the next meeting, and in the meantime Mr. GREENHALGH said he would obtain the permission of the Yorkshire College authorities, to whom he has presented the specimen, to make a section of the vertebra.

Mr. S. WHARAM showed fractures of the axis in a cow, and of the humerus in a mare, and was accorded a warm vote of thanks for the exhibits.

A Personal Explanation.

The CHAIRMAN wished to correct a passage in his speech about the annual meeting of the Association, reported in the veterinary journals. It would, he observed, be remembered that on that occasion he spoke of the letters which had appeared in the lay press respecting the recent restrictions imposed upon students, the writers of those communications stating that the restrictions would be to the detriment of the colleges and the public in future, and that veterinary surgeons would not be equal to the demand. According to the report of the speech, he was supposed to have agreed with that statement. What he said was quite the reverse. He stated that the writers of those letters had too much sympathy with the public, and that the sympathy expressed ought to be with the veterinary surgeons, and that if the present system of giving gratuitous advice and quackery were continued, the services of veterinary surgeons would only be required in exceptional cases in the the future, as the public would be sharp enough to treat the minor ailments of animals themselves.

The SECRETARY concurred that the published report of Mr. Cooke's speech was different from what he uttered.

Mr. S. WHARAM (Leeds) then read a paper on—

"LIGHTNING AND ITS EFFECTS."

Mr. President and Gentlemen,—The subject I am bringing to your notice to-day is one of more importance to veterinary surgeons than is generally

supposed, and one that I believe has not received the attention it deserves a our hands.

I have not been able to find in any one of our text books mention of the subject. Fröhner and Freidberger in their Pathology and Therapeutics Special to the Domesticated Animals, give a short account of the effects of lightning, and Mr. G. A. Banham read a paper on January 24th, 1881, before the Norfolk and Eastern Counties V.M.A. on the same subject, but what I consider the most important portion of a paper of this class, namely, the opinions and experiences of the members of a society like this, were unfortunately not published with Mr. Banham's paper, and for that reason and the time that has elapsed since any of our societies have discussed the subject, I feel justified in introducing it to your notice.

The name electricity is derived from a Greek word meaning amber, and was discovered and named by Dr. Gilbert, of Colchester. In the year 1600 he published the Tractatus de Magnete, where he gives a list of substances which he found to possess the same property as amber, such as sulphur, sealing wax, and glass.

It is not my intention to give you an account of what has taken place from that date to this; we all of us know the very important and varied uses to which electricity is now applied, and yet our knowledge and our application of it is considered to be merely in its infancy. However, I must refer you to the abundant literature on this subject, and will commence at once to consider the effects of lightning on living organisms.

Unfortunately in this country little can be drawn from statistics, but in France in the period from 1835 to 1863, 2,238 persons were killed by lightning, while between 1854 to 1864 inclusive 967 persons were killed. In the year 1864 alone there were 87 killed, 61 males and 26 females.

In Prussia, where registration is compulsory, the deaths caused by lightning in 1880 were 819 persons. (*Brit. Assoc. Reg. Aug.*)

Children appear to escape this mode of death more than adults (*Chemical News*, 1865, July 7th and December 8th) which is no doubt due to the difference in height.

I think it is only reasonable to suppose that a larger number of animals than anyone would imagine are killed or injured every year by lightning, for at the seasons when thunderstorms are most prevalent, a very large number of animals are out in the fields and therefore more liable to be struck. When a thunderstorm occurs the majority of people take shelter, but it is impossible to place animals under such favourable conditions, and comparing the number of them exposed in agricultural districts with the number of persons, it is evident that the proportion of animals struck must be considerable.

Cause of Death.—Electricity appears to act fatally by producing a violent shock to the brain and nervous system. In general there is no sense of pain, and the animal falls at once into a state of unconsciousness.

Injuries, etc.—Wounds and burns are sometimes met with; the wounds in human beings have commonly been lacerated punctures. In the case of a person that was struck but not killed, a deep wound was produced in one thigh almost laying bare the femoral artery. (Taylor's "Jurisprudence.")

I have examined in several cases the wood of trees which have been struck by lightning, and it has presented the appearance of rending by mechanical force, but I do not remember seeing any mark of burning.

Burns are occasionally met with, but in the majority of cases there is singeing of the hair or wool; in some instances a black mark, the result of burning the hair.

Blindness has frequently been caused by lightning. In a case of blindness in a horse attributed to lightning, the loss of vision in one eye was complete;

the eye presented a slight opacity of the cornea ; the head and neck were also drawn to one side. In another instance, a man took shelter under a tree and he felt as though a flash had struck him in the face ; he did not fall, but became almost blind, and loss of sight supervened.

Many instances are on record where persons have had their eyesight improved. According to Zootynk, lightning fell on the church of St. Mark, at Roveredo, on the 13th August, 1783. It burnt the dress of the priest, aged eighty-four, who was saying mass, but he was enabled to read without his spectacles after it.

An instance of the cure of blindness happened to Mr. Gordley, an actor at the Surrey Theatre, who had been deprived of the use of his right eye, but recovered it again after a flash of lightning, which fell near where he was standing. (Banham, *Veterinary Journal*, Vol. XII., p. 299.)

Paralysis is the condition most commonly met with. Animals are sometimes found in a state of insensibility, no doubt the result of concussion of the brain ; if they recover consciousness and are able to rise, they suffer from paralysis and other symptoms of nervous disorder. I have seen several cases of paraplegia in horses, supposed to have been the result of a stroke of lightning, and in each case the animal has either recovered in a few days, or gradually become worse, even under the best conditions and treatment.

Cases are recorded of paralysis being cured by a flash of lightning, and I have heard of one case where a man affected with rheumatism was cured after receiving a slight shock.

Abortion frequently takes place in animals after a storm, probably from fright. This seems to be more common in cows than in mares. Entire herds of pregnant cows have been known to abort, whilst the mares remained unaffected. (*Banham, Vety. Jnl.*, Vol. 12, p. 299.)

Fractures of the bones have not been commonly observed, but several instances have occurred.

Tetanus resulted in two days from a severe shock received by a boy. (*Med. Times & Gazette*, 1855, p. 553.)

Animals involved in the same flash do not all suffer equally. I have heard of many instances where animals together have been struck, some being killed or injured while others near were unhurt.

It has also been observed in cases of animals in a line, that the outside ones generally suffer most seriously. I heard of a case where a stable containing several horses in a row was struck, the horse at one end was killed, and the one at the other end was thrown down and lost consciousness, but recovered in a short time and appeared all right, the remainder apparently being in no way affected.

Post-mortem appearances.—The suddenness of death sometimes is such that there may be no appearances and no physical changes in the carcase, to indicate the mode of death.

Generally speaking there are externally singeing or blackening of hair, marks of contusion and laceration about the spot where the electric current has entered or passed out. It has been observed in some instances to mark out injuries, from scorchings of hair to deep burns, in the shape of branches of trees. This is perhaps the result of the electric fluid following the course of the blood-vessels causing extravasations. Sometimes in men a severe wound has existed, on other occasions there has been no wound but an extensive ecchymosis. (*Taylor's Jurisprudence.*) Venous system generally engorged, and blood dark with a tendency to rapid decomposition. Ecchymoses are both internal and external, in some instances marking the entrances and course of the electric current.

It was formerly supposed that the blood was never found coagulated after death by lightning and that the carcase did not become rigid. Experience

has shown, however, that these statements are not in accordance with observed facts.

In many cases in men metallic substances have presented traces of fusion, and articles of steel have been observed to acquire a strong magnetic polarity. West met with the case of a boy, aged 18, instantly struck dead by lightning where a knife in the pocket had a strong magnetic polarity; the deceased wore at the time of the accident a pair of strong leather boots, these were torn to shreds probably owing to the presence of iron nails in the soles.

In horses that are shod and in cases where animals have had metallic substances about them, results similar to the above in many instances would occur, but I have not heard of such being observed.

Bodies have been known to retain the position they were in before death. The Rev. Mr. Butler relates a case in which a man was struck by lightning whilst in the act of feeding a dog with one hand, and caressing it with the other. Both the man and the dog were petrified, as it were, in this position. The hand of the man was still holding the piece of bread.

In cases where, after a very careful examination, no lesions are found to account for death, and where death by lightning is suspected, inquiries should be made as to whether a thunderstorm took place about the time the accident occurred. The ground and surrounding objects should be examined, and, in the majority of instances, the practitioner will be able to satisfy himself as to the cause of death.

Legal Relations.—Although I am not aware of any litigation with reference to animals, cases have occurred where insurance companies have disputed claims made on account of death by lightning. I have heard of disputes arising out of the fact that horses were totally disabled by a stroke of lightning, which, in my opinion, is equivalent to death, the insurance company refusing to admit the claim until death had occurred.

Preventive Measures.—These are practised with the greatest success all over the world, in the shape of lightning conductors.

A "lightning conductor" protects a space nearly equal to its own height from its base outwards, and, therefore, a considerable area is protected. In a large breeding establishment near Leeds, the following system was adopted in the park:—

Each large tree had a conductor some distance above its highest point, which was carried into a tank of water at the base, the tree being railed round; and during 23 years that this system was in vogue, a large and valuable herd was out in the park; although in an exposed position, not a single animal was struck by lightning.

In conclusion, gentlemen, I thank you for the kind attention you have given to my remarks; I have endeavoured to place before you a few facts, and to describe what *post-mortem* lesions are most likely to be found after death by lightning. Whilst preparing this paper, I have come across many rather romantic tales, the results of a flash of lightning, and although some of them may be true, the date and unlikely circumstances of the majority requires more modern confirmation. I hope all of you, especially those who are practising in country districts, will give your opinions and experiences on this subject.

Discussion.

The CHAIRMAN initiated a discussion upon the subject, regarding which, he said, they had little literature, and their practical knowledge was meagre. He thought that in justice to their own consciences they should know what they were doing when they were called upon to examine the carcase of an animal and give a certificate as to whether it had died from the effects of lightning. He believed that when stockowners were insured against fire the insurance included compensation for deaths of stock by lightning, and many

people were, as they were aware, eager to make the best of their opportunities and receive compensation when they could. He narrated some of his own experiences, and said that when they were consulted in regard to lightning cases they should look for signs on the grass and trees that there had been lightning.

Mr. MASON agreed with the Chairman as to the absence of literature on the subject, and, referring to *post-mortem* examination, said he had noticed that when an animal had been struck by lightning the blood did not coagulate. The blood in the heart was in a perfectly liquid state.

Mr. PICKERING remarked that decomposition took place very quickly in an animal which had been struck by lightning. Was the carcase of an animal so struck fit for food? One authority said that if the animal was bled soon after it was struck it was fit for food. He thought that many of the animals that were struck were affected by what was called the counter-shock. The conditions of the carcase were similar to those noticeable after strangulation.

Mr. BOWMAN considered the *post-mortem* examinations most unsatisfactory in their results. He remembered a case where a man saw the lightning strike a mare and kill her in a moment, but when he (Mr. Bowman) came to make the *post-mortem* examination he could neither find the hair singed nor any discolouration under the skin. Often, however, they did find the hair singed and the skin discoloured.

Mr. FRANK SOMERS observed that during the past two years he had seen many animals which had been killed by lightning. His experience was that laceration and deep injuries rarely occurred, but that singeing of the hair and redness under the skin were generally apparent. As Mr. Bowman had observed, *post-mortem* examination were not wholly satisfactory, but often they were able to ascertain some indications that would warrant them in giving an opinion as to whether the animal had been killed by lightning or not.

Mr. CLARKSON said his experience was that, as a rule, they saw very little singeing. Most of the animals met their death or received their injuries by the counter-shock or recoil, and in those cases there were no external marks. As to the question of insurance, he thought it was not only a great hardship upon the owner, but distinctly cruelty to the animal that the insurance companies did not pay till the horse or cow died. In all humanity the insurance companies ought to settle the claim sooner than they did.

In replying to the discussion, Mr. WHARHAM said he thought it was settled that the blood did coagulate after death by lightning. As a rule, the electric fluid took the course of the blood-vessels. Rapid decomposition was undoubtedly a fact, and in a great measure was hastened by the heat which obtained during the time of thunderstorms. Counter-shock, as pointed out by Mr. Pickering and Mr. Clarkson, was a frequent cause of death. With reference to another point raised by Mr. Clarkson, he thought that the insurance companies should consider animals which were totally disabled as dead, and not wait for them to die of their injuries. If an animal was totally disabled, it was equivalent to being dead.

On the motion of Mr. MASON, seconded by Mr. CLARKSON, and supported by the SECRETARY, a cordial vote of thanks was accorded to Mr. WHARAM for his paper, and the proceedings terminated.

FRANK SOMERS, *Hon. Sec.*

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE Quarterly Meeting of the Lancashire Veterinary Medical Association was held at the Grand Hotel, Manchester, on Thursday, April 25th, 1895. *Present:* The President (Wm. Dacre, Esq.,) in the chair; Messrs. J. B. Wolstenholme, W. Ackroyd, H. Hall, J. H. Carter, W. A. Taylor, A. Munro,

T. Hopkin, Wm. Woods, E. H. Stent, H. B. Allen, F. B. Pearson, E. E. Wood, R. C. Moore, F. W. Hall, and Geo. Howe.

Mr. HOPKIN proposed and Mr. CARTER seconded that the minutes of the last meeting be taken as read. This proposition was carried unanimousyl.

The SECRETARY read various letters respecting the action of the Board of Agriculture.

Mr. HOPKIN proposed, Mr. W. A. TAYLOR seconded, and it was carried unanimously that Mr. Robert C. Moore, M.R.C.V.S., Manchester, be elected a member of the Association.

Mr. HOPKIN nominated Mr. King, M.R.C.V.S., of Manchester, for membership, Mr. WOLSTENHOLME seconded.

Consideration of Election of Members of Council of the Royal College of Veterinary Surgeons.

The SECRETARY read a letter from the Royal College of Veterinary Surgeons.

The PRESIDENT said he had received a letter from the Secretary of the Eastern Counties Veterinary Medical Association, Mr. Shipley, *re* the selection of a candidate for the Council and asking for the support of the Lancashire Veterinary Medical Association, and said he thought there could be no doubt from a letter he had received from Mr. E. Faulkner on the same subject, that the Lancashire Veterinary Medical Association were under a certain amount of obligation to the Eastern Counties Association, and that the former could not do better than reciprocate in the matter if they had a chance of doing so. He left the question with the members to say what they might think proper, and awaited any suggestions as to names and so forth.

Mr. W. A. TAYLOR proposed that Mr. Samuel Locke be asked to become a candidate, and in the event of obtaining his permission, that the office bearers with other gentlemen whom the President may select, shall be appointed to further his candidature and endeavour by all means in their power to secure his election. He had no doubt that the members of the Society would acquiesce in the desire of the Eastern Counties Association to assist them in their endeavours to elect Mr. Bower as member of Council of the Royal College of Veterinary Surgeons. It would be a matter for the Committee to decide as to whether a joint circular should be issued.

Mr. CARTER seconded Mr. W. A. Taylor's proposition that Mr. Locke be approached with regard to his candidature for the Royal College of Veterinary Surgeon's Council.

Mr. DACRE referred to the great loss the Society had sustained in the death of Mr. Thomas Greaves, and paid tribute to the untiring interest and life-long devotion of Mr. Greaves in the foundation and development of veterinary medical associations, and to every object which went for the improvement and advancement of the profession. He moved that a letter of condolence be sent to the representatives of the deceased gentleman.

This was seconded by Mr. J. H. CARTER, and carried unanimously.

The PRESIDENT (Mr. Dacre) then introduced the subject of fracture of the pastern in horses. He related a number of cases, and exhibited a variety of interesting specimens, which was followed by discussion.

Mr. J. H. CARTER, of Burnley, then brought before the members several subjects of deep interest to the profession, and also exhibited and gave the history of several specimens taken from cases which had come under his observation.

The SECRETARY stated he had letters, apologising for non-attendance, from Professor Williams, Professor Owen Williams, Professor Penberthy, Messrs. Peter Taylor, R. C. Edwards, R. Hughes, E. Faulkner, and J. McKinna.

Mr. WOLSTENHOLME exhibited two tubercular kidneys in the cow, sections

of skin from a case of malignant pustule in man, sections of skin and lymphatic gland showing the bacilli of leprosy in man, various sections showing tubercle bacilli in the horse, bacilli of tetanus, cultivations, various sections showing the bacilli of anthrax.

The SECRETARY proposed a vote of thanks to Mr. Carter for his communication on clinical cases. Mr. MUNRO seconded.

Mr. HALL proposed a vote of thanks to the President for presiding. Mr. WOLSTENHOLME seconded.

THE MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 381.)

MR. WARTNABY confessed that he was that day more in the position of a learner than a critic. He agreed with Captain Smith that in cases of ruptured stomach, food was most often the cause of it; but he thought it occasionally resulted from falls. He had had more than one case in which horses had been in perfect health, and having had a fall, the symptoms had commenced as soon as the animal had recovered its feet. Captain Smith had told them something of the food as it was received and remained in the horse's stomach, and he (Mr. Wartnaby) would like to know something about the water. Did the water remain long in the stomach? because there were different opinions upon that point.

Mr. GOOCH, after a complimentary allusion to Captain Smith's address, said that not long ago there was a serious outbreak of tympany at the agricultural show at Stamford. They had 14 cases altogether. He thought in the one case which died from ruptured stomach, that it was caused by a fall. It was an old horse that fell at a jump; but he afterwards discovered that it was caused by distension of the stomach, although the fall, no doubt, accelerated the rupture. In his opinion, the cause of the tympany was due to eating second crop clover, which had remained too long on the waggon, and became heated. The show authorities, on finding their supply of fodder falling short, pnrchased this clover in case of emergency, and all the animals attacked had partaken of it.

Mr. PARKER offered a few remarks on the subject of vomiting. He had seen horses vomit without ruptured stomach, but simply from indigestion.

Mr. JOHN BLAKEWAY said he had derived much useful information from the address, and although it was the first Captain Smith had delivered before their association he sincerely hoped it would not be the last. In respect to the action of the saliva, Captain Smith astonished him when he said it had no action upon starch. He (Mr. Blakeway) felt inclined to ask Captain Smith in what way did saliva assist digestion? Also, when was the best time to water horses. As to the frequent absence of abdominal symptoms, he agreed with Captain Smith to a great extent, but in watching many cases of abdominal mischief, he had found symptoms indicative of certain conditions. When he found horses vomiting, or walking backwards, he thought it pointed very much to ruptured stomach. Of course, the veterinary surgeon was placed at a great disadvantage, because as a rule he was not called in in cases of stomach trouble until the mischief had got well hold. He always attached considerable importance to the condition of the mucous membrane. Having regard to Captain Smith's statement that the entrance of certain food into the stomach forced other food out, he (Mr. Blakeway) thought the practice of feeding first with oats and then with hay ought to be discontinued. It would surely be better for digestion.

Mr. GREEN, in following up the discussion, said he agreed with Captain Smith in saying that in diagnosing stomach troubles it was unsafe to say whether the horse was suffering from gastric tympany or impaction. But at times it was necessary to give the owner of the animal an opinion.

Mr. STANLEY said that in cases of ruptured stomach, there was one particular symptom which he had nearly always experienced, and that was a constant sighing on the part of the patient. He never found that symptom except in cases of ruptured stomach. In the treatment of tympanitis a favourite remedy of his was ammonia, which was the best thing in his opinion for attacking the carbonic acid gas.

Mr. W. CARLESS said he knew that in making many *post-mortems* they found a great variety in the colour of the mucous membrane of the horse. But he had on many occasions seen it a deep red colour, and associated during life with symptoms of cerebral mischief. He could not help thinking it was due to the condition of the stomach of the horse at that time. It would be new to him to find that the cerebral mischief was due to any other cause. He firmly believed there were certain symptoms which, if regularly noticed, would afford them positive proof that the stomach was the seat of the mischief, such as stretching the œsophagus, elevating the head, depressing the chest; also regurgitating, and a feeling of fear on gas passing up the œsophagus in the manner described.

Mr. TRIGGER thought it would ill become him not to say a few words, if only to express his appreciation of Captain Smith's services that afternoon. There were morbid conditions, which had not been alluded to by Captain Smith, which led them to look for altered positions and size of the stomach where animals had been fed on food not, perhaps, deleterious, but innutritious. In the case of wind-suckers, he took it that the horse swallowed wind. He had never satisfied himself on the point. He was inclined to think that wind-sucking and crib-biting were the results of disease rather than the cause of disease. With regard to boiled food, most of them had read with interest "Smith's Veterinary Hygiene," and he (Mr. Trigger) had often pondered over that particular paragraph in which the assertion was made that boiled food was responsible for ruptured stomach, and he could not in any way trace ruptured stomach to such a cause. He had had horses of delicate digestion that would not thrive, and in those cases he had advocated boiled foods, with remarkable success. It was the finest method he knew of giving the digestive organs a rest. He agreed with Captain Smith that the symptoms of ruptured stomach were few; at the same time, he thought they were very marked.

The PRESIDENT, in closing the discussion, said he had to thank Captain Smith very heartily for his very valuable address, which was one of the best it had been his privilege to hear during his connection with the Association. There were many points upon which Captain Smith had touched with which he perfectly agreed, but there was certainly one thing upon which they apparently did not see eye to eye, and that was on the matter of boiled foods. He (the President) had a great deal to do with thoroughbreds, and the rearing of foals, etc., and he, therefore, often had very delicate animals under his care. When he got such, he put them entirely on cooked foods, and they thrived and did well. He could point to one particular animal in this town, bought three years ago, and for 18 months she never was free from colic for a month together. He used to puncture, but she got in the same condition again. He then advised putting her entirely on cooked foods; she had never since had an attack of colic, and was now fat and blooming, and doing her work well. The food was not administered in its moist state; it was first cooked and then allowed to dry well. Not long ago, he saw a horse at Bath which had nothing but boiled barley and a little hay. Captain Smith had said he believed ruptured stomach to proceed almost invariably from internal rather than external causes. He (the President) believed so himself. But he could point to two cases within his own knowledge where external causes were largely contributory.

Captain SMITH then replied to the discussion. Answering Mr. Blakeway

first, as to the action of the saliva, he said it was purely mechanical. If they diverted the supply to the mouth, the horse would choke. He thought the best time for watering horses was before they were fed. In answer to Mr. Wartnaby, he had to state that water did not remain in the stomach at all.

Mr. WARTNABY here interposed with the question, "Then how do you account for finding medicine in the stomach after death?"

Captain SMITH replied that it was because the stomach was in such a condition as not to admit of the passage of the medicine out of it, very probably paralysis of the stomach. As to the desirability of hay being given first instead of oats, as suggested by Mr. Blakeway, he begged to remind them that some experiments made by a German physiologist had led him to suggest the very same thing. It was opposed to the general practice, and was distinctly based upon experimental inquiry. As to the use of boiled foods, he would not go the length of saying that Mr. Trigger and the other gentlemen present who shared the same opinion had made a convert of him, but he could not help admitting that his eyes had been opened very much on the subject. He had already promised himself to give it a deeper and more searching investigation. As to a wind-sucker swallowing air, he thought there was no doubt whatever about it. The President had asked him a question regarding the effect of frozen food upon the stomach, and he was only sorry that want of experience in that particular matter prevented him answering it.

Mr. WARTNABY moved a vote of thanks to Captain Smith for so kindly coming amongst them and giving them such an interesting and instructive address.

This was seconded by Mr. GOOCH and heartily carried.

Captain SMITH, in acknowledging the compliment said he had been amply repaid for any trouble he might have been put to by the courteous and appreciative hearing which the Midland Association had extended towards him.

The Board of Agriculture.

Mr. MALCOLM said that before the meeting terminated there was a matter which he wished to bring forward which was not upon the agenda. At a meeting of the Central Association held the previous evening, it was resolved to approach the Board of Agriculture with reference to the reported appointment of Major Tennant as head of the Veterinary Department, and the attitude of the Board to the veterinary profession generally; and he (Mr. Malcolm), had been asked to obtain an expression of opinion from this Association.

Mr. STANLEY thought it was a matter which they ought seriously to look to. It was high time the veterinary profession tried to hold its own against such appointments. He would be very glad to move a resolution which would have the effect of supporting the Central Association in any action which they took.

The PRESIDENT suggested that the members of this Association protest against the appointment of non-professional men as head of the Veterinary Department of the Board of Agriculture.

Mr. CARLESS asked whether it was a positive fact that Major Tennant had been appointed head of the Veterinary Department.

Mr. GOOCH thought the best thing for this Association to do would be to have a memorial signed by the whole of the members.

Mr. WARTNABY thought the best thing would be to back up the Central Association.

Two resolutions on the subject were moved—one by Mr. Carless in favour of a protest from this Association to the Board of Agriculture, and the other by Mr. Trigger, suggesting the appointment of a small committee with power to take such steps as they thought most desirable. These, however, were eventually withdrawn, and,

Mr. MALCOLM moved "That this Association petition the Council of the Royal College of Veterinary Surgeons to approach the Board of Agriculture in reference to the appointment in question, and the Board's attitude generally to the veterinary profession, and further, that if other Associations are sending deputations to the Board of Agriculture on the subject, this Association do likewise."

This was seconded by Mr. WARTNABY, and carried unanimously, it being further resolved that the deputation (if required) from this Association shall consist of the retiring President (Mr. Olver), the President-elect (Mr. Wartnaby), and the Hon. Sec. (Mr. H. J. Dawes).

Next Place of Meeting.

This question formed the subject of considerable discussion, Birmingham, Worcester, and other places being in turn suggested. Eventually, in deference to the wish of the President-elect, it was resolved that the next quarterly meeting should take place at Burton-on-Trent.

The Annual Dinner.

At the conclusion of the business, the members adjourned to another room, where the annual dinner was held. Mr. Olver occupied the chair, being supported on the immediate right by the President-elect, and on the left by the guest of the day, Captain Smith. A short but appropriate toast list was gone through, and the proceedings were characterised by the utmost harmony and goodwill.

H. J. DAWES, *Hon. Sec.*

THE VETERINARY MEDICAL ASSOCIATION OF NEW SOUTH WALES.

A MEETING of veterinary surgeons was held on Monday, October 22nd, 1894, in Sydney, N.S.W., when the following gentlemen were present:—Messrs. E. Stanley, K. Symons, John Stewart, F. W. Melhuish, W. C. Quinnell, T. Green, J. D. Stewart, Guthrie, and A. P. Gribben.

Mr. J. Stewart was voted to the chair. Mr. Gribben was elected secretary *pro tem.*

On the motion of Mr. SYMONS, seconded by Mr. MELHUISH it was unanimously resolved—"That an association be formed with the title of The Veterinary Medical Association of New South Wales."

Rules were then drafted and referred to a committee, consisting of Messrs. Green, J. D. Stewart, and A. P. Gribben, for revision prior to submitting same for confirmation at the first meeting, to be held on Monday, November 12th, 1894.

Roll of Members.

Messrs. Edward Stanley, F.R.C.V.S., S. T. D. Symons, M.R.C.V.S., F. W. Melhuish, M.R.C.V.S., A. E. G. Robinson, M.R.C.V.S., John Stewart, V.S. (H. & A. S. of S. certificate), Jas. D. Stewart, M.R.C.V.S., S. C. Pottie, M.R.C.V.S., John Pottie, V.S. (H. & A. S. of S. certificate), P. Green, M.R.C.V.S., A. P. Gribben, M.R.C.V.S., W. C. Quinnell, M.R.C.V.S.

Extracts from Minute-Book.

First monthly meeting held on November 12th, 1894, Mr. John Stewart in the chair. There were also present—Messrs. E. Stanley, T. Green, W. C. Quinnell, J. D. Stewart, and A. P. Gribben.

Rules were adopted, and the election of office-bearers resulted as follows:—President, Mr. John Stewart; vice-president, Mr. Edward Stanley; hon. secretary and treasurer, Mr. A. P. Gribben.

Second monthly meeting held on December 10th, 1894, the President in the

chair. *Present*—Messrs. E. Stanley, J. D. Stewart, T. Green, A. E. G. Robinson, Fenner, and the Secretary.

Mr. Stanley exhibited specimens of bovine melanotic cancers, taken from cattle condemned at sale-yards.

Mr. J. D. Stewart exhibited—(*a*) portion of reticulum of cow, showing numerous amphistoma conicum attached to mucous membrane; (*b*) portion of bowel of dog, showing intussusception at ileo-cæcal valve, with tapeworms (*Pacnia marginata*).

The President delivered his inaugural address as follows:—

Gentlemen,—It having fallen to my lot to have the honour conferred on me of being elected president of this, I believe to be, the first formed veterinary medical association in New South Wales, I desire to express, to one and all, my grateful thanks for this expression of their kindly feelings and respect. At the same time, I feel constrained to confess that I fall short in the many gifts, attainments and graces, even when measured by my own standard of what I conceive a president of such an important and learned association should be. But it appears to me to be the general way of things and events in this world and life, that most great works, scientific knowledge, and patriotic reform ofttimes spring from very humble and modest beginnings, and that it is the small things that build up and dominate the large, and this seems to me to be in conformity with the laws of nature, in the building up of the ascent of man, and with man a higher development and usefulness, both in the animal and vegetable kingdoms.

Some thirty years ago, or maybe, more, the veterinary surgeons in New South Wales found themselves in a very grave and depressing position, being neglected and ignored not only by the breeders and owners of domesticated animals, but also by the Government and the courts of law and justice. They were also surrounded on every hand, in every district, by the so-called farrier or horse doctor, terms which were used synonymously, a class of men who sprang from horse-shoers, little farmers, stockmen, stallion leaders, and butchers, who had no education or special training to enable them to practise the veterinary art, and but few of them had even accomplished the feat of mastering the three R's. They were very glib of tongue, possessed little or no conscience, were very assertive, large in promises, and very positive as to the nature of the disease, and what would cure it. Verily they did all the doctoring and gave abundance of advice gratis.

During these trying times the veterinary surgeon was often placed in extremely trying and straitened circumstances, verging on despair and abandonment of their profession, but the love of their profession, with the strong and imperishable conviction in their souls, that they had knowledge and power with themselves, and justice on their side, fortified and strengthened them to go onward and forward, so that by their abilities, truthfulness, and rectitude of character and earnest, honourable lives, the veterinary surgeon has now become valuable, sought after and respected. So now we find him associated with the medical profession, in the boards of health and sanitation, in very responsible Government positions, and his evidence in courts of law commands great respect and value. All this has been accomplished by the veterinary surgeons working silently, and individually, after many years of labour and hardship, during which not a few good men succumbed and the world knew them no more. But a new, a stronger, and a brighter life is dawning on veterinary surgeons in New South Wales. We have formed ourselves into an association for the elevation and advancement of the profession, by educating the public into the benefits that are to be derived by calling into their service the specially educated and trained abilities of the veterinary surgeon, who will, as he ever has, place it beyond all doubt, that he is the most capable and profitable person to administer to the needs and wants

of our domesticated animals when in pain or sickness, and that it would be greatly to the advantage and profit of breeders and owners, to consult him as to the care and management of their stock and to the sanitation of their establishments.

In this way we may fairly anticipate that the care and management of our domesticated animals would be greatly improved and elevated, thereby bringing about a mutual benefit, as between owners of stock and veterinary surgeons, and at the same time our national wealth would be largely conserved and increased.

Now, if in the past, veterinary surgeons have advanced and accomplished so much under adverse surroundings, surely it is most reasonable to anticipate, that having formed themselves into an association, and become one solid, cohesive body, pledging themselves with all their individual might and main to elevate and advance the veterinary profession, to discuss the principles and practice of the veterinary art and veterinary scientific subjects, a new and hopeful future should be in store for the veterinary art in New South Wales, and one which should make its mark felt for great good in the sphere of the afflicted and suffering.

I am sure that every member of this Association acutely feels the grave and responsible position; to enlighten and educate the public is a long, a trying and a never-ending work, beset with many difficulties and disappointments, but in the end the love of our noble profession, with the heartfelt desire to relieve pain and suffering, will more than conquer all, and lead us into a haven of peace and rest, with the soul rejoicing, knowing that we have honestly striven to save pain and life, and to benefit the world in our day; a reward which will not depart from us when sickness or age has blunted all the senses, and the body has lost its capacity to enjoy life, but will abide with us unto the very end of life and go with us into the great unknown. Without doubt the members of this Association will now both individually and collectively come more under the observing eye of the public and kindred associations than ever before, and will be subjected to a larger amount of criticism, which will be most heartily welcomed if it is honest, fearless, and intelligent, for we concede that such criticism is the builder up and purifier of all great nations, works, deeds and aspirations, and in the absence of which many people and nations have been left in or have fallen into ignorance, superstition and slavery.

As to our own internal economy, I suppose it is in conformity with the constitution of mankind that there should be difference and divergence of opinions amongst us, and how can it be otherwise, when other eyes give different impressions to other brains, and that the tendency to extremes is very great, and hardly to be avoided on all occasions, even by the best trained and most cultured intellects?

Yet that and all other difficulties and obstacles which may beset our path will be overcome and vanquished if we approach our work in the spirit of true brotherhood, and have nothing else in view but the desire to advance the veterinary profession, to save pain and life, and do good in our day and generation.

In conclusion, I would in the name of this Association most earnestly plead with such of our professional brothers as have not yet joined, to do so without further delay, so that they may help and strengthen us in the great and noble work we have set our hearts and hands to perform.

Third monthly meeting held on January 14th, 1895.

Formal Business Transacted.

Three associates and one member nominated.

Fourth monthly meeting held on February 11th, 1895, the President in the chair. *Present*—Messrs. Quinnell, Melhuish, Robinson, T. Green, J. D. Stewart, and the Secretary.

One associate was nominated, one member and three associates were lected.

Moved by Mr. STANLEY, seconded by Mr. J. D. STEWART, that a letter of condolence and sympathy be sent to the bereaved widow and family of the late Professor Walley.

Mr. ROBINSON opened a discussion on "The present position of veterinary science in the Colonies." He especially dealt with the desirability of taking steps to obtain an Act of Parliament to protect the qualified practitioner, mentioning several cases of quacks openly using "M.R.C.V.S." Reference was also made to the movement in England to ensure protection to the qualified man abroad, the general opinion being that as far as this colony is concerned, the only action promising any benefit would be to bring the matter before the Agent-General who, in his turn, would submit a report to his Home Government. After a general discussion, a committee consisting of Messrs. J. Stewart, E. Stanley, W. C. Quinnell, and A. P. Gribben, was appointed to enquire into the matter of obtaining an Act of Parliament.

Fifth monthly meeting held on March 11th, 1895, the President in the chair. *Present*—Messrs. Stanley, Quinnell, F. W. Melhuish, T. Green, J. D. Stewart, F. C. Stewart, J. M. Stewart, and the Secretary.

Mr. C. J. Vyner, M.R.C.V.S., was nominated as a member, one associate elected.

Mr. STANLEY exhibited the following morbid specimens:—(*a*) Large hydatid cyst in the left ventricle of a pig's heart, showing atrophy of walls; (*b*) Tubercles in kidney of ox; (*c*) Hair-balls from stomachs of pigs.

Mr. J. D. STEWART read a paper on "Mechanical Lameness: its Diagnosis." Discussion adjourned till next meeting.

Extracts from Foreign Journals.

VAGINITIS VERRUCOSA.

IN January of this year, I was requested by the police authorities to examine the parish bull, which was said to be suffering from a vesicular eruption. I was informed that the animal had been eating poorly for a week past, that he was falling off in condition, that he showed purulent excretion at the sheath, and would no longer serve the cows. On examination I found general dulness, defective appetite, scanty, dry fæces, restlessness, pain on lying down, frequent rising up, great pain during urination, stamping with the feet, violent switching of the tail, striking of the belly with the feet. The urine came away in a regular stream, and was in colour and consistence quite normal. The mucous membrane of the penis was bluish-red, and showed roundish ulcers, covered with purulent mucus and whitish shreds; it was very sore to the touch.

In the small parish there are some 70 to 80 cows; about these, it was reported to me, that some 12 were suffering from *fluor albus*, and that a larger number, although apparently healthy, were not with calf. On investigation, I found that a number of cows *were* suffering from *fluor albus*, without showing other symptoms in the mucous membrane of the vestibule. In others—some 17 or so—I found in the neighbourhood of the clitoris, or a little farther forward, where the walls of the vagina approach, little nodules, which could be easily seen and felt; they were quite smooth to the touch.* Their size

* The term, "verrucosa," seems to me, for this reason, not quite suitable. With the word "verrucosa" (warty), one associates rather the idea of a raw, ragged surface.

varied from a small pin-head to a millet-seed. They were found sometimes singly, sometimes in groups, sometimes scattered over the whole of the mucous membrane. Their colour was bright red, so that they were quite distinguishable from the yellowish-red colour of the membrane. I observed no interference with the general health of the cows, no pain in urination, no swelling of the labia, and no abnormal secretion. Not one of the patients, although eight or ten times bulled, had become pregnant. For months past they had been wanting the bull every two or three weeks. None of the virgin-animals were affected in the way I have described. The nodules had, up to this time, not been observed by any of the proprietors. It was not known that any of the animals had ever been ill, or had aborted, or had had trouble in calving. The only astonishing thing to the owners was their sterility. It was, therefore, impossible to ascertain how long this chronic inflammation of the mucous membrane of the vestibule had been going on.

I describe the malady from which the bull was suffering as a diphtheritic inflammation of the mucous membrane of the penis, caused by intercourse with cows suffering from *fluor albus*. Whether between these ailments—which were undoubtedly connected with each other—on the one side, and the *vaginitis verrucosa* on the other, there is an ætiological connection, I leave undecided. In vesicular eruptions amongst cows I have never observed, after healing of the vesiculæ, any nodular formation such as I have described. Even in text-books nothing is said about it. There is no resemblance to the smooth or radiating whitish-yellow cicatrices which often result after healing of the vesicular outbreaks.

The cows which had been served by the bull shortly before the appearance of his ailment were some of them affected with *fluor albus*, some quite free from disease of the genitals. The cows suffering from *vaginitis verrucosa* had none of them been at the bull for at least four or five weeks past.

My treating of the *vaginitis* consisted in washing the vestibule three times a day with a solution of lysol—a cupful to a bucket of tepid water. Although this treatment was carried on vigorously, there was no improvement visible, even after fourteen days. Trommsdorff tried nitrate of silver, bichlorate of mercury, alum, and other drugs in similar cases without success; for this reason I had avoided the application of severe remedies, and at the end of three to four weeks I obtained a cure with the lysol treatment. If anyone examines closely the places where the nodules were in the cows he can certainly see a few reddish-coloured spots, but the finger finds no obstruction when passed along the vulva. Some of the cows have since been served by a bull from a neighbouring parish, and no contagion has resulted; whether they have become pregnant cannot yet be decided.—*Contributed to the "Berliner Thierärztliche Wochenschrift" by Veterinary-Surgeon Froehner, of Hünfeld.*

STOPPAGE OF URINATION IN A HEIFER FOLLOWED BY APOPLECTIFORM DEATH.

On 25th November last I was called in to prescribe for a heifer that had become suddenly very ill. Up to the time of my visit she had been by all accounts quite healthy, and seemed well nourished when I saw her. She lay with her legs drawn up under her belly, was unable to rise, had a dull heavy look and groaned frequently. The visible mucous membranes were red-coloured; temperature *per anum* 39·6 Cent. (= 103° Fahr.); the pulse was making 82 regular but weak beats per minute. The animal was drawn out of its confined position, which made inspection difficult, into the open passage; at first she allowed us to do with her as we liked, then suddenly she became obstinate, gave a loud groan, tried to jump up, staggered for a moment, then fell all of a heap and died. She was promptly bled and there-

after I examined her; the autopsy showed stomach and intestines, spleen and liver, lungs and heart normal, and pericardium likewise. In the brain and spinal marrow no pathological alterations were visible to the naked eye; not even in the kidneys was there anything anomalous. The bladder was very greatly enlarged. The ureters showed, at about one-third of their length above the bladder, and at a point which almost exactly corresponded in both, a shrunken part, 1·8 cm. (= about seven-tenths of an inch) in length; here the ureters felt stiff, were of almost cartilaginous consistency and allowed only a very fine sound to pass. From this point onwards to the mouth of the bladder both ureters were considerably widened, their walls were thin and they were choke-full of retained urine. The bladder was double its ordinary size, its walls were pale and thin, because muscularly atrophied. Towards the neck of the bladder the muscular tissues gradually increased in strength and finally formed a strong sphincter, in which, however, apart from its unusual strength, no pathological peculiarities were to be observed. The sphincter could only with difficulty be passed by a bougie, introduced from without. There was not the slightest trace of gravel, or swelling, or any alteration in the mucous membranes. The retention of the urine can have been brought about only by a (rheumatic?) spasm of the sphincter. The strictures of both ureters have really no connection with this. At the same time the immediate cause of the apoplectiform death was not explained by any discoveries made at the *post-mortem.—Communicated to the "Berliner Thierärztliche Wochenschrift" by Veterinary-Surgeon Petersen.*

CONTAGION OF TETANUS AND ITS TREATMENT BY OIL OF TURPENTINE AND THE MILK-REGIME.

Some years ago I did not believe in microbes. Having, like so many others, seen tetanus develop out of a simple chill, in the case of horses that have undergone operations and otherwise, I could not conceive that in one or other part of the organism a deadly focus could be established, which should secrete the poison of this terrible, this appalling disease. Now I think differently, and believe in microbes.

In a paper which I wrote recently I made the following statement:—"Medical science has hitherto rejected in principle all idea of direct contagion of tetanus, that is, transmission to the healthy subject suffering from a wound. Now, if this contagion has not been *proved*, I nevertheless assert the following convictions, based upon a series of observations honestly collected during a number of years from my daily practice. First, a patient dying of tetanus or recovering either by natural process or by some mode of treatment, creates in the surroundings of the place where it was treated a dangerous focus, in which the danger lurks *for years*. Second, a patient that has been wounded or has undergone a surgical operation, such as castration or docking of the tail, or has been pricked by a nail, if introduced into this place before it has been disinfected runs the risk of *indirect contagion*. Third, this risk is so great that I am horrified at the number of cases that daily justify, or seem to justify, any statement." Like many other practitioners who perform castration and tail-docking on a large scale, I have come to treat my patients by a uniform method which, although not infallible, gives astonishing results—I mean the administration internally, in successive doses, of oil of turpentine (ess. terebinthi). Two new cases have just occurred in my practice, but before detailing them I should like to mention some former cases of great interest.

For the last ten years I have castrated all the colts at the village of A., and I had not had a single case of tetanus following thereupon. The owner of a mare had her docked by the village farrier; a few days later this mare was attacked by tetanus after being exposed to a cold rain; the tetanus became

acute and death occurred in forty-eight hours. The following spring I went to castrate the colts of the village as usual. P., the owner of the mare, had just one colt to castrate; after the operation the colt was placed in the stable where the tetanic mare had died. Result, acute tetanus and death in forty-eight hours. No comment is necessary. I will only say that not a single inhabitant of the village can remember a case of tetanus on that farm.

Village of M.—Mare pricked by a nail, attacked by tetanus, treated by a surgeon, dies. Colt is castrated in May and placed in loose-box, which had not been disinfected. Death from tetanus.

Village of P.—Mare pricked by nail, tetanus, death. Six months later a mare foals normally in the same loose-box; acute tetanus, death. This case seems to me quite extraordinary, for in a practice extending over twenty years I have never had occasion to observe tetanus in a mare after parturition.

The recent cases are as follows:—

May, 1893.—M. Thiéry's stable at E. Tetanus following on castration in a colt a year-and-a-half old; violent trismus, general rigidity; cure by oil of turpentine at the end of 21 days.

June, 1894.—M. Thiéry gets three horses docked by the village farrier; one of these (a two-year-old filly), is put in the very place where, a year before, I had treated the castrated colt. Result, acute tetanus, death. The other two animals—one of them being my tetanic colt of the preceding year—recover from the results of the operation.

June, 1894.—M. Brogard's stable at G. Three-year-old stallion pricked by a nail; posterior tetanus at the commencement, rigidity becomes general, then violent trismus, interrupted deglutition; kept in slings for three weeks, slipped through them twice, fell on the ground, was raised again. Recovered after swallowing three litres (= 5¼ pints) of oil of turpentine, along with an equal quantity of olive oil. This stallion is at present serving mares.

January 5th, 1895.—Six months old colt picked up a nail which did not even make him lame; there was very slight suppuration. This colt occupied the very box of the stallion above described. Between the 5th and 10th of January he was seized with acute tetanus; frightful rigor, trismus. I gave him 100 grammes (= 3½ ozs. av.) of the mixture (ess. tereb. and olive oil) per day until he had taken 800 grammes of essence. Then, deglutition having become absolutely impossible—the incisors being completely locked together—I fed him with warm milk, which seemed to do him good. The patient, suspended in the same slings which had served for the stallion, is now (February) out of danger. The trismus is reduced. He nibbles eagerly a mixture of oats and finely-chopped carrots; the general rigidity still persists, but will probably disappear gradually. The œdema of the limbs and of the sheath is, in my opinion, a *very favourable* symptom. It indicates, of course, a disorganisation of the renal organs caused by the abuse of the diuretic, but also a return to the normal condition.

These two cases support, I think, the opinion which I have enunciated. It may be said that they were mere coincidences, but, coming as they do in support of so many other observations made with the utmost care, they seem to me to dispel all doubt. Neither M. Thiéry nor M. Brogard had known a case of tetanus in their stables until those occurred which I treated. Was the *cure* in these cases due to my method, or was it likewise a mere coincidence? I think not, because I save three-fourths of my patients by this method. Neither can I attribute to chance the fact that, in a whole series of cases of tetanus, the germ of the disease was plainly gathered on the spot where other cases had been treated six months or a year previously. So convinced am I of what I say that I should now refuse to castrate a horse if I found that it had to be stabled where another had died of tetanus.—*Contributed to the "Recueil de Médecine Vétérinaire" by M. Hartenstein.*

Notes and News from Foreign Journals.

Dogs in Iceland.—The authorities in Iceland, says *La Revue Scientifique*, have forbidden the introduction of foreign dogs into the island. This prohibition is owing to the fact that a disease which was traced to a dog imported from abroad, and which was formerly unknown, has carried off the greater number of sheep-dogs employed in the country.

Punishment of Empirics.—The *Progrés Vétérinaire* states that at Parthenay, the criminal court sentenced a quack—who, by the way, was mayor of his commune!—to pay a fine of 250 francs (£10), and expenses, for having "professionally" attended some tuberculous animals. Another empiric was sentenced at the same court to pay a fine of 50 francs and expenses.

Tetanus in a Pig.—M. Garlitchscoff, a Bulgarian veterinary surgeon, gives an account of a pig, four or five months old, which showed all the phenomena of tetanus ten or eleven days after being castrated by an empiric. The symptoms were absolutely perfect; the muscles of the head, neck, back, lumbar regions—of the whole body, in fact—were as hard as wood; the tail and ears were slightly elastic, and when moved by the hand, returned to their former position. The animal died in a few days.

Castration of a Mare through the Flank.—Veterinary Surgeon Martin details in the *Wochensch. für Thierheilk.*, a case of a mare that understood this operation. She was cast and shackled, her two fore-feet and two hind-feet being tied separately on a strong pole in such a way that the two pairs of feet were as far apart as possible. An incision 15 centimetres (about six inches) long, in a slightly oblique upward and forward direction was made in the left flank. The search for the ovaries was rendered easier by the use of Richter's vaginal sound; they were removed with the help of an *écraseur*. The left ovary contained numerous cysts. The cure was simple and rapid, but at the end of three weeks it was found that the mare had lost none of her bad habits.

A Cargo of Infected Sheep.—We learn from the French papers that a cargo of sheep, some of which were found to be infected with scab, arrived from South America at the Port of Havre recently, and another cargo at Dunkirk. The Minister of Agriculture prohibited the landing of these animals, but allowed the vessels to remain in quarantine until the whole of the infected animals should recover; he ordered the immediate slaughter of the sheep, still healthy, that had been in contact with the others. This will take place at the port of arrival, and orders have been issued that the landing-piers and all the ground traversed by the sheep, likewise the slaughter-houses, and all places occupied by them, shall be disinfected at the expense of the shippers.

Honour to Veterinary Surgeons.—The following names have been added, by command of the President of the French Republic, to the list of *Officiers du Mérite Agricole*, being already Officers of the Legion of Honour:—(1.) M. Chauveau, member of the Academy of Sciences, Inspector-General of veterinary schools; (2.) M. Trasbot, member of the Academy of Medicine, Director of the National Veterinary School of Alfort; (3.) M. Nocard, member of the Academy of Medicine, Professor in the Veterinary School of Alfort.—M. Eugène Duquesne, Veterinary Inspector at Buchy (Seine-Inférieure), has been appointed *Chevalier du Mérite Agricole*.—M. Degive, Director of the Veterinary School at Cureghem (Brussels), has been appointed Officer of the Order of Leopold.

Horses and Mechanical Traction.—*La Nature* says:—"If we may believe what American trade-journals say, the horse industry in that country is on the decline and prices have fallen more than sixty per cent. within the

last few years. This state of matters—a very serious one for the farmer—is owing, it is said, partly to the progress of mechanical traction, especially electric traction on tramways, and partly to the development of the "steel horse," the bicycle—a horse always ready for the road and one which requires no feeding. There were sold in 1894 more than 200,000 bicycles in the United States alone, and it is thought that the sale in 1895 may perhaps exceed 300,000. The same state of things will doubtless prevail in France, if not through mechanical tramways, at any rate through the use of bicycles, and the fall in prices for horses will be intensified when by the development of vehicles driven by petroleum and gazoline, not to speak of electricity, the ordinary cab shall have disappeared from our streets."

Notes and News.

Penetration of Microbes into the Blood.—M. Nocard recently reported to the Society of Biology, of Paris, the results of some experiments which he has been conducting, from which it appears that the blood sometimes contains microbes, although no germs could be found by microscopic study of the blood. Cultures made from the serum of blood, collected with such precautions as to prevent the possibility of infection, indicate that microbes are sometimes present, and especially during digestion. The latter fact has led M. Nocard to believe that microbes find their way into the blood through the intestinal wall. Examinations made upon dogs recently fed, and upon fasting dogs, have shown that the blood of fasting dogs is always sterile. The portal blood was also found sterile in dogs that were fasting. The intestinal contents contained a few microbes. Four hours after feeding, however, it was noticed that the number of microbes present in the intestinal contents was small if the food taken contained little fat, but very large if fat was present in considerable quantities. It was also observed that when fat was present, the innumerable colonies which developed, rapidly liquefied gelatine. Both cocci and bacilli were found in the blood. The experiments made seemed to indicate that microbes were conveyed into the blood by minute fat globules.—*Bacteriological Notes.*

Extract from the Report to the Royal Commission on Agriculture by the Assistant Agricultural Commissioner for Scotland.—In the chief feeding counties which he visited strong indignation was expressed that Canadian store cattle should be excluded from this country, while at the same time fat Canadian cattle were landed at our ports, slaughtered there, and then put into competition in our home markets against home-fed and home-bred stock. The all but unanimous opinion of those engaged in the feeding industry was that our ports should be again opened to Canadian stores. They were keenly alive to the necessity for rigidly protecting our home flocks and herds against the introduction of disease, but one and all agreed that it had not been proved by any investigations made hitherto that there was greater risk of disease being imported from Canada than from Ireland, from which country the store supplies for Scotland at present chiefly come. Their experience had been that the stores brought from Canada were peculiarly exempt from bovine ailments, and most, if not all, added that if the Irish stores were to be subjected to the same test as had been applied to the Canadian stores, quite as great, if not greater, evidence of disease would be found among them as had been alleged to have been discovered among the Canadian stores. At the same time, it was necessary to mention that most of those engaged in the breeding and rearing of stock held quite an opposite view, and argued that the supplies of store cattle available in Scotland or brought from Ireland were sufficient for the requirements of

feeders, and that the present system of excluding the Canadian stores should not lightly be departed from.

PROFESSOR M'EACHRAN, the veterinary expert of the Dominion Government, has in a recent interview, published in the Canadian press, given some information that is interesting in its bearings on the cattle trade. If his statements are correct, it would appear that the export of cattle from the United States and Canada, is likely to show a falling off this year, owing to the short supply on the other side, and to the consequent advance in prices that has taken place. Dr. M'Eachran mentioned that the scarcity of cattle has been especially felt in Chicago, Kansas City, and Omaha, where, he adds, it is a positive fact that there has been a shortage of over 300,000, probably 400,000, head of cattle. The result is that cattle have risen in value, and probably will continue to do so for the next two or three months. While there may be a check in the advance when the grass-fed cattle become available, it can, however, be only temporary; and he believes that next year prices will be higher in the United States than they have ever been before, and it would not surprise him if beef cattle became so scarce and so dear as to stop—if not entirely, at least, to a very large extent—the export to European markets. Dr. M'Eachran further states that though there will always be a large number of cattle of inferior grades which must find a market in Chicago and other packing centres, high-class steers and fat cattle generally will, in his opinion, hold the present prices for the next three or four years. These conclusions he has arrived at after consultation with men largely interested in the business in the United States. Dr. M'Eachran also stated that the question of scab in sheep was attracting much attention in Canada, and that the Government were considering the advisability of making the dipping of sheep before shipment compulsory. This measure is under review, not because scab is at all prevalent, but in order that Canadian sheep may bring the highest possible prices in the markets here.

THE TREATMENT OF HORSES.—The committee of the Humanitarian League wish to call public attention to the brutal treatment to which horses are frequently subjected, through thoughtlessness or cruelty, in London and all parts of the kingdom. It is a common occurrence, in town and country alike, to see horses (often heavily over-loaded) savagely struck by their drivers for no fault whatever—except, as is usually the case, the fault of the drivers themselves. The officers of the Royal Society for the Prevention of Cruelty cannot be everywhere; and it is obvious that the large number of convictions yearly obtained by their efforts can represent but a small percentage of the instances where cruelty occurs. The most natural and effective remedy for this public scandal would be for the police to act promptly, and on their own initiative, when such cases are witnessed by them. At present, the duty of preventing cruelty to animals is practically left to the agents of a private society (the R.S.P.C.A.), and to any humane individual who may remonstrate or intervene—the police on duty will, in nine cases out of ten, see nothing and hear nothing, unless forced to do so by the bystanders. There is no valid reason why, in this particular form of offence, the enforcement of the law of the land should be left to private enterprise. It would be quite possible for the police, by resolute action, to repress the common ill-usage of horses which is now a subject of daily observation and complaint. Again, much unnecessary suffering is caused to 'bus and tram horses by the frequent stoppages, and the consequent repeated strain of re-starting. During the past year the Humanitarian League has issued an appeal to passengers, requesting them not to stop the cars unnecessarily. This appeal has been adopted by a considerable number of companies; though, on the other hand, some managers (especially in London) have refused to exhibit it in their cars. It would be well if public opinion and the voice of the Press would exert itself on this subject. What

is most needed is the establishment of fixed stopping-places on our 'bus and tram routes; but, failing that, some means should be taken to draw the attention of passengers to the suffering which their thoughtlessness involves. There is one further point on which a word remains to be spoken. It is earnestly to be hoped that all public bodies, county councils, vestries, etc., will prohibit the use of the bearing-rein in the case of their own horses, and so set an example which private individuals may follow.—H. S. Salt, Hon. Sec., Humanitarian League, 38, Gloucester Road, Regent's Park, London, N.W.

THE NATIONAL VETERINARY ASSOCIATION.

The Annual Meeting this year will be held in Birmingham, on July 24th and 25th. A paper on Abdominal Surgery will be read by Professor Macqueen, F.R.C.V.S. Discussion to be opened by Professor Dewar, F.R.C.V.S. A paper will also be read by H. Olver, Esq., F.R.C.V.S., and discussion opened by Professor McFadyean, F.R.C.V.S.

DEATH OF MR. HENRY J. GOODALL, OF MELTON MOWBRAY.

Mr. Henry John Goodall, M.R.C.V.S., of Melton Mowbray, died at his residence in Burton Street as noted in our last issue, after an illness of a most distressing and lingering character. Throughout the entire district the news of the sad, though by many not unexpected, event was received with feelings of the sincerest sorrow and regret, for few men were better known than Mr. Goodall, while none were held in higher respect than he may justly said to have been. In Melton itself, the almost untimely end of so estimable a townsman has caused quite a gloom. During his residence here, he gained the good opinion of every class of the inhabitants with whom he came into contact, both in his professional and private capacities. The circumstances leading up to the malady which ultimately brought about the death of Mr. Goodall were such as to make the occurrence all the more lamentable in its character, the deceased gentlemen having met with two severe accidents within a very short time of each other, while handling horses in the course of his business. The result was a permanent injury to the spine, bringing on complications which the best of medical skill failed to subdue. Though not entirely incapacitated, Mr. Goodall never thoroughly recovered from the mishaps referred to, and about ten weeks ago his condition became such as to give rise to grave fears. His medical attendants, Drs. Powell and McCrath, were unremitting in their attentions to the unfortunate gentleman, while the services of Sir Wm. Broadbent, the eminent London physician, and other well-known practitioners, have also been requisitioned. Despite their skill, Mr. Goodall gradually became worse, and, for some little time before death ensued, his case was regarded as hopeless, a feeling which the patient himself shared. The end was quite peaceful, Mr. Goodall being completely exhausted owing to the nature of his complaint. We need scarcely observe that the utmost sympathy is felt for Mrs. Goodall in her bereavement, and, also, we are sure we may add, for the deceased gentleman's mother, who is still living, the blow to both being a very sad one. He was fifty-four years of age.

Mr. Goodall was the eldest son of the famous Mr. Will Goodall, for many years huntsman of the Belvoir Hounds, and was born at the Kennels at Belvoir Castle in December, 1841. The love of horse and hound appears to have been a distinguishing trait of the family, for the deceased, and his brothers, Mr. Stephen and Mr. Thomas Goodall, all took up the veterinary profession, while Mr. William Goodall is huntsman to the Pytchley Hounds, and Mr. Frank Goodall holds a similar post to the Kildare (Ireland) Hunt.

After receiving a careful education, Mr. Goodall, on deciding to pursue the calling of a veterinary surgeon, was sent to the Royal Veterinary College, London, and in 1862 obtained his diploma. He first practised at Wetherby, in Yorkshire, and after a brief sojourn at Waltham, came to reside at Melton, occupying first the house in which his father-in-law, Mr. Musson, now lives, in Thorpe End. A few years afterwards, he took up his residence in Burton Street, the house being one which possesses some historical interest. His talents were speedily recognised, and he came to be regarded as an authority on many matters appertaining to his profession. He was particularly noted for his judgment as to soundness of wind, and his services were often requisitioned as a judge at shows, while he acted as veterinary inspector at several of the Islington exhibitions. Our readers will readily surmise that Mr. Goodall was extremely fond of hunting, and he was always delighted to hear of good runs with the Belvoir, although he invariably allowed himself only one day a week with hounds. In connection with the Melton Horse Show, the Lincolnshire Veterinary Association, of which he was the president, and in other capacities where his professional knowledge and wide experience stood him in good stead, Mr. Goodall rendered much valuable and useful service. His conscientious work and undoubted skill brought him an extensive practice, and his kind and genial disposition won for him the sincere respect of all classes.

The interment took place in the Melton Cemetery, the first part of the service being held in the Parish Church.

CONTAGIOUS DISEASES ANIMALS ACT, 1894.

England, Scotland, and Wales.

Abstract from the Summary of Returns for the week ending April 20th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Diseased 817 Died ... 244 Suspected 44 1105	Fresh Outbreaks 9 Animals Attacked 15	Fresh Outbreaks 15 Animals Attacked 27	Dogs Killed 14 ,, Died 1 15	None

For the week ending April 27th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Died ... 218 Diseased 1064 Suspected 33 1315	Fresh Outbreaks 9 Animals Attacked 14	Fresh Outbreaks 14 Animals Attacked 17	Dogs Killed 11 ,, Died 3 Sheep Killed 1 15	None

For the week ending May 4th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot and-Mouth Disease.
None	*Slaughtered* Diseased 1009 Died ... 186 Suspected 21 1216	Fresh Outbreaks 11 Animals Attacked 19	Fresh Outbreaks 18 Animals Attacked 27	Dogs Killed 15 ,, Died 2 Sheep Killed 6 ,, Died 2 25	None

IRELAND.

Abstract from the Summary of Returns for the week ending April 20th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and Mouth Disease.
None	*Slaughtered* Diseased, etc. ... 102 Died ... 23 Suspected 14 139	None	None.	Dogs Killed 10 Cattle Died 2 Swine ,, 1 Ass ,, 1 14	None

For the week ending April 27th, 1895.

Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and Mouth Disease.
None	*Slaughtered* Diseased, etc. ... 97 Died ... 21 Suspected 18 136	Fresh Outbreak ... 1 Animals Attacked 1	None	Dogs Killed 16 Cattle ,, 1 17	None

For the week ending May 4th, 1895.

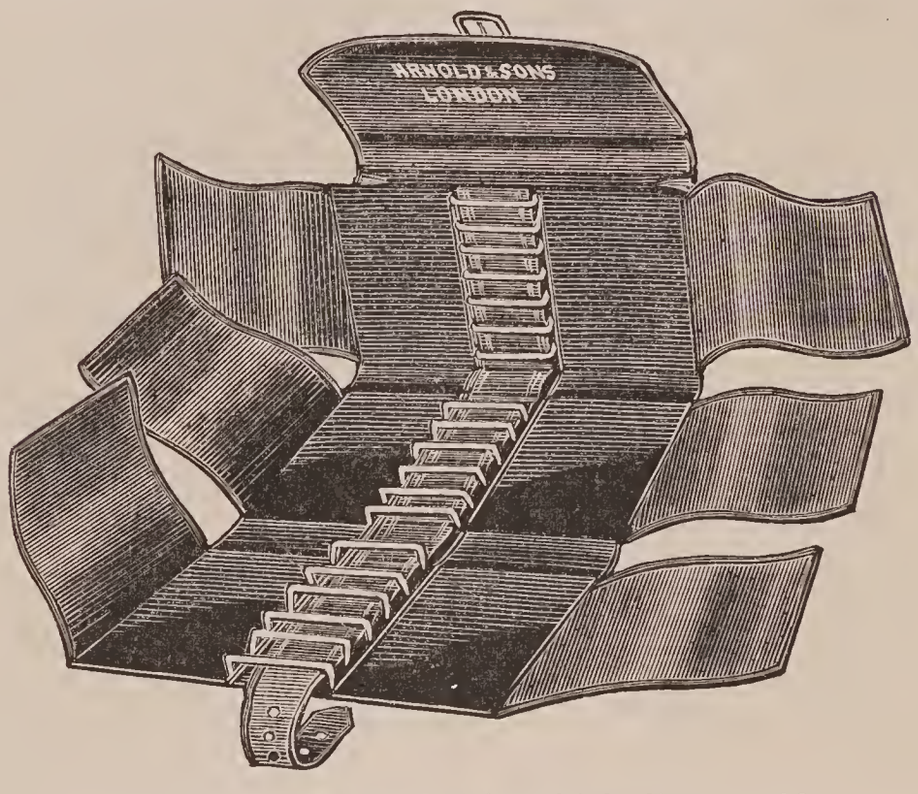
Pleuro-Pneumonia.	Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Foot-and-Mouth Disease.
None	*Slaughtered* Diseased 157 Died ... 51 Suspected 20 228	None	None	Dogs Killed 19 Cattle ,, 1 Sheep ,, 1 Cattle Died 1 Sheep ,, 1 Swine ,, 1 24	None

Veterinary Department, Privy Council Office, Dublin Castle.

NEW INSTRUMENT CASE.

A NEW style of instrument case, made for Mr. Graham Gillam, of the Royal Veterinary College, by Messrs. Arnold and Sons, will be specially serviceable for country practitioners. By means of a strap running through metal loops,

the leather loops, which hold the instruments, can be enlarged or made smaller to accommodate any sized pocket instrument. By withdrawal of the



straps from the metal loops, all corners in which dirt would accumulate can be thoroughly cleaned. It is made of leather, and is stronger and more durable than the ordinary pocket case.—(*Communicated.*)

AN INSTRUMENT FOR HOOF SECTION.

A NEW instrument has been brought out by Messrs. Arnold and Sons, for the purpose of facilitating the cutting through of the wall of the foot in Smith's operations. It is called a hoof plane, and cuts a wide groove from the coronet to ground surface, and as deep as the white line. To those who practise hoof section, this instrument will be found of value as a time and labour-saving appliance.—(*Communicated.*)

Correspondence.

VETERINARY INFIRMARY, MIDDLESBORO',
May 4th, 1895.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—The morbid specimen forwarded to you yesterday was discovered, *post-mortem*, in the colon of a 4 years old cob, 14-2 h. h. The history of the subject so far as I can gather, is as follows :—It was bought at Brough Hill Fair about a year ago, and up to four months ago gave every satisfaction to the owner. About this time it gradually commenced to lose condition, fed and worked indifferently, and had a peculiar tucked-up appearance. Two months ago it completely lost its appetite, was brought to my place, and after careful examination the case was diagnosed as one of indigestion, due to imperfect

mastication ; the teeth were very irregular ; after rasping, etc., and giving tonics, etc., it gradually improved ; after a fortnight's treatment was apparently cured. On the morning of the 28th ult., the owner found the animal suffering from abdominal pain. He brought it to my yard about 9 p.m. ; upon exploring *per rectum* the abdominal growth was very readily felt and pressure caused acute pain, the pony nearly falling when pressure was brought to bear upon it. Abscess being diagnosed I advised the owner to have it destroyed ; he refused, as is usually the case. (I may mention that there was no mistaking it for a calculus.)

Symptoms, so far as I am able to describe, were as follows :—Pulse 84. Visible mucous membrane highly injected, with an unusually tucked-up appearance of the abdomen ; two or three small pellets of dung had been passed during the day ; would stand with the off foreleg flexed at the knee, the foot held close up to the elbow, and continually moving it backwards and forwards in a jerking manner ; this would go on for a few minutes, when the same process was gone through with the near foreleg, but not for so long a time ; would then lie down on near side, look round to the off flank, get up on his forefeet and sit on his haunches for a few minutes ; this went on until 1 p.m. on the 29th ult. Pulseless, respiration hurried, and sighing occasionally, haggard expression, walking round and round the box, stand for a few minutes, and balance himself, as it were ; the animal continuing these symptoms until 3 p.m., when he staggered, fell, and expired in a few minutes.

Upon making *post-mortem* all the organs appeared healthy except the liver, which on section had a peculiar mottled appearance. I trust you will excuse my poor attempt at describing what I think a rather unusual case, and if you consider it worth describing in your ably-conducted journal, I shall feel doubly repaid for any trouble I have taken in the matter. My real object in sending it on to you is that I am of opinion the growth is "tuberculous" in character. On this I should like your opinion. Apologising for unnecessarily taking up your valuable time.—Yours faithfully, ROBT. ELLIOTT, V.S.

20, ELIZABETH STREET, SYDNEY, N.S.W.,
March 27th, 1895.

To the Editor of the VETERINARY JOURNAL.

DEAR PROFESSOR,—Under cover I have pleasure in handing you particulars of the formation of the first Veterinary Medical Association in this country ; possibly you can utilise same for the VETERINARY JOURNAL. Hitherto we have been a disunited profession here, several of our members, though neighbours, being total strangers ; happily, thanks to the Association, this is now at an end. Although several attempts had been made in this direction, nothing was done till an event happened which brought us together. A Government department proposed to introduce a free clinique for the benefit of a few amateur students. I called a meeting, and we sent in a joint protest, which resulted in the project being abandoned. The enclosed will explain what followed. So far success has been with us, and the future promises to be prosperous.

I will send you particulars of anything interesting that occurs from time to time.

Unfortunately, the colony is now, and has been for the last two years, suffering from a great depression in business, so that practice here is not very remunerative ; horses are practically valueless and quacks are in abundance, so we have not a very lively time ; however, I am living in the hope of being able to revisit Leith Walk and find you in the best of health, and everything in the old place in full swing. Wishing to be kindly remembered, with kind regards, Yours faithfully, A. P. GRIBBEN.

ROYAL COLLEGE OF VETERINARY SURGEONS,
10, RED LION SQUARE, HOLBORN, W.C.
May 6th, 1895.

DEAR SIR,—As you are aware the Council of the R.C.V.S. are endeavouring to obtain some alteration of the attitude of the Board of Agriculture towards the veterinary profession.

We are not likely to succeed unless some parliamentary assistance can be obtained, and I therefore enclose you a copy of our report which you might kindly send to the member of Parliament for your district, with a short note, asking him to give his consideration and support.—Yours truly, W. HUNTING.

P.S.—We should be glad to know the name of any favourable M.P.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I have thought the present a fitting opportunity to bring under the notice of the veterinary, as well as the agricultural, profession the great benefits derived from the use of paraffin in the cure of tuberculosis. I have for upwards of twenty years used paraffin as a cure for that disease, holding, as I do, that the paraffin has the power to arrest the development of the bacteria, and thereby restore the animal to a thriving condition. The dose I give to a full-grown ox or cow is two ounces daily, for ten days at least, in a quart bottle of milk or gruel, but this dose might be increased or diminished according to circumstances.—Yours, etc., WILLIAM ANDERSON, M.R.C.V.S.

Titubantie, Coull, Aberdeenshire.

Army Veterinary Department.

London Gazette, April 30*th*.

Veterinary-Captain A. Bostock to be Veterinary-Major. Dated April 30th, 1895.

The following veterinary officers are serving with the Chitral Expedition :—Veterinary-Lieutenant-Colonel R. Poyser, Inspecting Veterinary Officer ; Veterinary-Captain F. Raymond and Veterinary-Lieutenants A. A. Newsom, H. B. Knight, C. B. Freeman, H. T. Sawyer, and G. M. Williams.

Veterinary-Captain E. Taylor and Veterinary-Lieutenant C. Rose are on Field Service in Waziristan.

Veterinary-Lieutenant G. K. Walker has taken veterinary charge of the Camp, Okehampton, during the Royal Artillery gun practice. The following transfers have taken place :—Veterinary-Captain A. J. Haslam to Dublin from Newbridge ; Veterinary-Lieutenant J. H. Jackson, Ballincollig to Newbridge, for duty with 3rd Hussars ; Veterinary-Lieutenant F. B. Drage, to Ballincollig, for duty with 10th Hussars.

Extract from London Gazette.

The undermentioned Veterinary-Lieutenants to be Veterinary-Captains. Dated 13th May, 1895 :—David J. Burry, James G. O'Donel, Alex. E. Richardson and William K. Walker.

Communications, Books, Journals, etc., Received.

E. W. Hoare ; "Hirudo" ; Hy. Gray ; H. J. Goodall ; Arnold & Sons ; Animals' Department, Army Veterinary Department ; A. W. Hill ; Central Veterinary Medical Society ; North of England Veterinary Medical Society ; Midland Veterinary Medical Society ; Yorkshire Veterinary Medical Society ; New South Wales Veterinary Medical Society ; National Veterinary Association ; Lancashire Veterinary Medical Society ; W. Anderson ; "The Scotsman" ; "The Veterinarian" ; "The Veterinary Record" ; "Notes on Injurious Insects," by Miss E. A. Ormerod ; "Agricultural Journal," Cape Colony ; "Medical Press" ; "Farming World" ; Recueil de Médécine Vétérinaire" ; "Journal of Comparative Medicine and Veterinary Archives" ; "Modern Medicine and Bacteriological Review."

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